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INSTITUTE OF REAL ESTATE MANAGEMENT

The JOURNAL of Property Management

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June, 1945

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This publication is provided as a medium for the expression of individual opinion concerning management practice and procedure and topics allied thereto. The articles printed herein do not necessarily represent the endorsement of the Institute or of the majority of the members excepting as such statements may be designated as approved by the Governing Council. The editors exercise only a general supervision of the material and assume no responsibility for the opinions expressed by the contributors.

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The Professional Pledge of the

CERTIFIED PROPERTY MANAGER

I HEREBY PLEDGE MYSELF to act in strict accordance with the principles, declarations, and regulations of The Institute of Real Estate Management.

I PLEDGE MYSELF in particular to place honesty and thorough work above all else in my administration of real property; to advance myself constantly in knowledge and ability through the study of literature on real estate management, the instruction of eminent teachers, the interchange of experiences with fellow Certified Property Managers, and attendance at meetings of the Institute whenever possible; to be faithful to the personal interests of my professional brothers and to seek their counsel when in doubt of my own judgment; to render willing help to my fellow Certified Property Managers; and to give my services freely to the Institute as required or desired.

MOREOVER, I PLEDGE MYSELF to shun unwarranted personal publicity and dishonest money seeking as disgraceful to our profession; to render complete, thorough, and honest service to landlord and tenant alike regardless of monetary consideration; to strive assiduously to build goodwill for the properties under my charge and to use my best talents at all times to preserve and maintain the value of such properties; to secure the greatest possible net return to the owners of properties entrusted to my management; and to give devoted attention to the safety and comfort of tenants of these properties.

FINALLY, I PLEDGE MYSELF to cooperate in advancing and extending, by every lawful means within my power, the influence of The Institute of Real Estate Management.

The Institute of Real Estate Management
of the National Association of Real Estate Boards

The Editor's Review

KEEP UP THE GOOD WORK

PRIOR to the depression the management business, except as a specialty in the big cities, did not amount to much. Then our late cousin, the depression, descended upon us—the unexpected, unwelcome guest who stayed with us for ten long years. Did I say unwelcome? Cousin Depression made our business with little help from us. The thousands of mortgage lending institutions all over the country found themselves owners, not mortgagees, and they knew nothing about how to handle the job. They turned to the Realtor, who turned to the Institute. We enjoyed prosperity and began to educate the public to our specialized business. We were a group of "professional men" not a trade organization. All this was quite rosy and lasted until the end of the depression. Then we began to sell the properties, and to a large extent forgot the steady income of the management business and our "profession" for the larger quick return of sales brokerage. In our anxiety to make sales, many of us neglected to try to keep our management.

Then the war. Meeting attendance dropped off. The national convention was cancelled. Result? Not good! Loss of business! Loss of interest! Members asked, "What do I get out of the Institute?" "Why should I be a member?"

About this time several very interesting things happened. The Institute began to emphasize the problem of how to go out and get business. Some rather academic criticism was heard that this was "unprofessional." We can not decay while waiting for bad times to throw good business at us. The Institute sponsored an advertising competition and some of us began to wake up and do things. Many of the advertising programs used by our members throughout the country are not just eye-catching "straws-in-the-wind." They are exciting, cash-on-the-line, supported punches to get business. They are evidence that we finally are taking an aggressive, healthy course to sell our professional business to the property-owning public, which during the depression was unnecessary. They have proved that there is a volume of management business to be had by seeking it. They have proved to owners that the management fee more than pays for itself. Good management alone will not help to prevent a depression but if one comes good management can aid the owner through it.

Then President Delbert Wenzlick came along. He decided not to wait for a pauper's grave but took the offensive. All of us may not agree with all of his ideas, but he went out into the field and met us in our own backyards. He kindled enthusiasm and reawakened our interest. Several new chapters were formed. And now we are working on some By-laws changes. Perhaps we haven't gone as far as some of us wanted—but where there is new life, there is hope. The *Journal* is in for a face-lifting. Pictures and illustrations are coming into more use. Articles are to have new vigor. When all of us put this renewed effort into our own territories, the crises will be over. Go to it!

The depression sleigh ride is over. The

shock of the sudden stop has passed, and we have started climbing the hill again. Keep moving, CPMs—keep moving—forward and upward—with caution on the downhill coasting. —O.A.K.

MANAGEMENT PLUS *vs.* MANAGEMENT MINUS

OBSERVATION leads me to believe that personal characteristics of managers are more evident under today's easy market than at any other time in my experience.

The opportunity for a manager to coast in on easy market with high occupancy, easy collections, and not too-exacting tenants is tempting. Many buildings which are coasting show better earnings than at any time during the past fifteen years. Though these earnings are partially due to deferred maintenance they make a good looking record on monthly reports.

During the years when tenants were scarce, practices of managers tended to be more uniform. We were all scrambling for tenants and in most cases were forced by competition to give them uneconomic advantages. While there was some variance in degree, the tenants in most cases did get more per dollar of rent than was fair.

A short time ago I checked what was happening rent-wise in office buildings in this city. Of the eight buildings checked I found that in six, managers were following the same practices they have used during the past ten years. There were few changes in rents or in rental practices. This condition prevailed even though vacancy has dropped from approximately 18 per cent to 2 or 3 per cent.

In the other two buildings rent raises were general. In one, the raises were reasonable and well justified. In the other, the manager has gone from one extreme to another. A few years back when vacancies were prevalent, he used every possible inducement to secure tenants—even paid their moving expenses. Recently, with office space at a premium, he has raised rents very substantially throughout his building.

This survey is interesting because it reveals the extremes between management policies. It appears to me that the majority of property managers are lagging in securing rentals which would be fair to owners and would correct depression practices with respect to alterations and other uneconomic operations. The manager of the first building mentioned above is operating on middle ground, and the other is taking complete advantage of the market.

As far as I can determine, the tenants in the six buildings having no change in policies have little appreciation of their advantage. Tenants in the building following a middle course appreciate their circumstances and are not unduly disturbed; while tenants in the building in which raises are extreme are disturbed to a point where they are seeking a way out and are attempting to purchase or construct small buildings for their use.

The latter building is definitely "going to town" now. It remains to be seen whether the advantage can be maintained over a period of time when tenants are dissatisfied. I must admit, however, that the manager has done as good a job as possible of selling them on the increase.

The entire purpose of this editorial is to raise the question, "Are we each doing the best job of management we can and are we awake to market changes?" Are we giving management plus or management minus?

I feel we have been "behind the eight ball" so long it might become a habit. Let's check ourselves to see if we can't better our position for ownership and ourselves. —*D. J. B.*

WORD FROM OVERSEAS

ONE of the sixty-five CPMs serving overseas, Frederick Wayland of Boston, Massachusetts, now a Pfc. in the Fifth Army, says his Institute membership card was instrumental in his being selected to serve as part of the operating staff of Grande Albergo Alpino, an Italian hotel in Stresa, now being used as an Army officers' rest camp. He writes:

2633 Service Co. Hq., 5th Army
APO 464, c/o PM, New York City
June 23, 1945

The Institute of Real Estate Management
22 West Monroe Street
Chicago 3, Illinois

Dear Sirs:

I was very pleased to receive your letter of May 28 regarding the *Journal*, etc.; and look forward to the time when I can get back into the swing of things at home.

Property management has been my second love, shall we say, for a good many years, and during my free time in the two years I've spent, thus far, in the Army, I've looked over every hotel I could find from Georgia, where I was trained, to the Alps here in Italy.

If for no other reason, my "browsing" around has been worth while as I met a friend of our U. S. Ambassador Kirk while in Rome last January, and had luncheon with the Ambassador at the Barberini Palace.

At present I am, in a small way, part of the staff operating the Fifth Army's Senior Officers' Rest Hotel, located here in Stresa, Italy. It is in the Alps overlooking the beautiful Lake Maggiore, and just an hour's ride from Switzerland. The important factor is that my ever-present Institute of Real Estate Management Membership Card was instrumental in my being one of the few, with experience, selected by the Army to come here.

My wife, who is a very efficient and capable girl, has managed my property and small office force since I've been in the Army. Therefore, I'd appreciate your mailing the *Journal* to her as indicated on your enclosed form.

Sincerely yours,
Pfc. Frederick Wayland

From Tinian Island in the Marianas, CPM Arnold Goldsborough of Wilmington, Delaware, writes that he is operating a laundry:

Hq., Hq. Co. AGF, APO 247
c/o PM, San Francisco, Calif.
July 8, 1945

The Institute of Real Estate Management
22 West Monroe Street
Chicago 3, Illinois

Dear Sirs:

I received your letter about the Institute and the *Journal*. The *Journal* is being sent to me by my office, I believe. I am receiving it but do not remember the return address on the envelope.

I have been on this Island since October and am operating a laundry with native help. I have learned to speak a little Japanese and manage to get along with the women nicely.

At first we just scrubbed the clothes on flat top tables. Then I managed to get some washing machines and taught them how to use them. Their eyes popped when they saw the machines. Now we have irons and a regular laundry—even to the bluing!

Are there any CPMs on Tinian?

Here's hoping we all meet again soon.

Sincerely yours,
Cpl. Arnold Goldsborough

WARTIME CONDITIONS in paper and printing have been responsible for the delay in the March and June issues of *The Journal of Property Management*. Whereas both of these factors are beyond the control of the Institute it is hoped that the situation will ease sufficiently to allow us to bring you the remaining two issues for 1945 before the end of the year. In any event, it is now clear that the delays will be minimized and that future publications will more closely approximate their due dates.

THE AUTHORS
in this Issue

DELBERT S. WENZLICK, *CPM, St. Louis, Mo.*

President of the Institute of Real Estate Management for 1945; president of Wenzlick Sales and Management Organization Inc., of St. Louis, Missouri. He was one of the founders of the Institute and has served on its Governing Council and Committees since 1934. This year he is devoting almost his entire time to Institute matters and has traveled over 17,000 miles in this work.

F. B. MARTIN, *CPM, St. Louis, Mo.*

Vice president, Carl G. Stifel Realty Company; president, Pasadena Realty Company. He attended the University of Michigan, Washington University, and London University School of Commerce and Finance. Real estate management has been his business for the past ten years.

ROY WENZLICK, *Ph.D., St. Louis, Mo.*

Editor and publisher of the Real Estate Analyst. He has devoted his entire time during the past seventeen years to real estate research, and has supervised special housing and real estate studies in many parts of the United States.

REPORT OF THE PRESIDENT

By *Delbert S. Wenzlick, CPM*

MY SIX months as President have passed very quickly, as busy months always do. Traveling 17,000 miles under wartime conditions has been strenuous but not without its amusing and sometimes irritating incidents, such as my being the three hundred sixteenth "guest" for dinner on a single dining car, and nearly roasting on a Pullman in which the steam heat, on by mistake, could not be turned off, while the outside temperature was ninety-four degrees. My travels were worth while, however, as they gave me an opportunity to visit with approximately one hundred twenty-five of our members located in the following cities: Cincinnati; Columbus; Pittsburgh; Washington, D. C.; Philadelphia; New York; Newark; Jersey City; Hartford; Boston; Syracuse; Buffalo; Cleveland; Detroit; Chicago; Omaha; Kansas City; Denver; Colorado Springs; Salt Lake City; Los Angeles; San Francisco; Portland; Seattle; Minneapolis; and Milwaukee.

In addition to my visits in members' offices, I met with every chapter, except the Tulsa chapter, and helped to organize the new Nebraska-Iowa and Milwaukee chapters. Many pleasant visits with old friends also made the traveling worth while as did the side trips to points of interest, including: Harry Taylor's "Village Green" development; George Morrison's house-building operations; the Peace Conference where visitor's tickets were cancelled the day before I arrived; the Kaiser Swan Island shipyard in Portland, Oregon, where large tankers were built at the rate of one every five days; and Van Port, the Portland temporary housing project where there are more than 10,000 furnished units under the direction of the Portland Housing Authority, of which Chester Moores is Chairman. This is said to be the largest public housing project in the world. At its peak occupancy the population was 40,000.

Revision of By-laws

Always uppermost, however, in all of these contacts with CPMs were the plans to make our Institute of greater value to us. When I took office in February without the opportunity of making advance plans between the date of election and inauguration, because of the cancellation of the 1944 convention, I agreed to carry on with existing committees and to try to work out with our members and chapters detailed plans for putting the Institute in a position to render greater service to its members. This seemed a timely program inasmuch as the Institute, as never before, had closed its year with a balanced budget and with nearly seven hundred members. After the many discussions with CPMs from coast to coast a definite plan of operation was developed. The new plan necessitated changes in the By-laws. A preliminary draft incorporating the various changes was presented first to the Executive Committee and later to the Governing Council at their meetings in Chicago in May. These By-laws, which provide for the creation of four working Divisions each supervised by an advisory board of three carefully selected members, were wholeheartedly endorsed by your Governing Council. In addition, a plan was approved by which most committee members as well as all Division advisors will serve three-year terms. The By-laws as approved, with the exception of a few changes

in wording and arrangement, have been sent to you in mimeographed form for your suggestions and are printed following this report. Their final adoption by the Governing Council will be the order of business at a special meeting to be held in September. You will find that the material in these new By-laws has been rearranged so that any subject is more easily located than in previous By-laws.

Four Divisions of Operation

I should like to call your attention particularly to the four Divisions provided for in ARTICLE VI, as these will be strictly working Divisions created to serve the members in fields where the individual can do little but where great need exists. The Division of Publications will have full charge of all material published by the Institute including the *Journal of Property Management*, operating manuals, reference material and textbooks. The first two in the series of these manuals have reached you and the third will be ready soon. Efforts have been made to make the material in the *Journal* of greater interest and value. For economy, the editorial work is now being done by our efficient executive secretary, Olive Dyer. The new By-laws provide for three advisors who will be responsible for this phase of the operations. Eventually we hope to have a paid director for this and each of the other Divisions.

The Division of Research should get off to a flying start as a tentative selection of the three advisors includes outstanding men, and preliminary plans have been made with the United States Bureau of Standards whereby a research man, paid by the Institute, will work in the Bureau on a series of related problems involving materials and techniques of building maintenance. Results of the testings will be published from time to time in the same general form as our manuals. In connection with the research program I have consulted with the American Society of Heating and Ventilating Engineers which has maintained its own laboratory for over twenty years, with the Bureau of Mines, the Mellon Institute, and the National Paint, Varnish and Lacquer Association. Additional research work is contemplated with several of our university engineering schools and some research experiments are now being conducted in our own elementary laboratory under the direction of Richard L. Nelson.

The Division of Standards and Planning will attempt, as soon as possible, to establish a simple system of uniform cost accounting. This is necessary before an exchange of experience can be practical. Eventually the Division should develop, also, valuable operating experience data for use by architects and engineers in the design of buildings and by appraisers in more accurately determining income of buildings.

The Division of Education will attempt to develop better and probably longer management courses and will revise and enlarge the text material now being used. This Division will be much more effective when the efforts of the other three Divisions begin to produce results.

Members' Cooperation Important

By the creation of these Divisions we have provided a proper facility for all the service activities the Institute may develop. By careful selection of the small advisory groups in each case, and the concentration of ability and authority through the three-year instead of one-year terms of office of each advisor, we believe more efficient work can be done. No plan, however, can accomplish much unless personal effort is put behind it. This plan of reorganization will not succeed unless you, as members, volun-

teer for work for which you feel you are particularly fitted and then wholeheartedly give your time and experience for the common good of all of us. I solicit your suggestions or criticism.

Accredited Management Organizations

The revised By-laws also provide for identification of management organizations which meet the standards set by the Institute. These organizations will be known as *Accredited Management Organizations* and will be authorized to use the insigna shown in ARTICLE X of the By-laws on their stationery and in advertising material to advise the public they have met the requirements. Such advertising should be of great value to an accredited firm. In addition, the accrediting plan will be helpful to the property owning public, including large institutions, such as insurance and trust companies, because they are very anxious to have a list of management organizations throughout the country to which management business can be entrusted with assurance that it will be handled properly. Your Institute is in the best position to identify competent management organizations.

The plan of accrediting firms was presented originally to the Governing Council several years ago by Kendall Cady and although it was deemed to have merit, the many details involved prevented an earlier acceptance. My trip around the country afforded me an opportunity to discuss the plan at great length and to compose the differences of opinion which existed among the Councilors. A notable feature of the plan is that it makes no charge for this accrediting recognition. Although investigation and annual reinvestigation of the qualifications of these firms will be a considerable task, it was felt the Institute should assume it inasmuch as it could render a great service to the property owning public by setting desirable minimum standards and measuring management organizations against them. By making no charge for accrediting the Institute will avoid any possible criticism that it will make a profit through the service. The increase in membership dues from $20 to $25 (ARTICLE II, Section 3) was recommended by the Governing Council at its May meeting to cover the additional expenses resulting from the accrediting plan.

Management Courses

In addition to the foregoing planning for the future the Institute has conducted a course in the fundamentals of real estate management at the William Penn Hotel in Pittsburgh, Pennsylvania, under the auspices of the Pittsburgh chapter of the Institute and the Pittsburgh Real Estate Board. These sponsoring groups worked hard on promotion. As a result forty-two students were enrolled. We were pleased to have among the group two CPMs and their wives. This course was well received and undoubtedly will result in the addition of a number of members to the Institute.

A similar lecture course will be offered in Dallas, Texas, the week of October 8 in cooperation with our members in Texas, our Tulsa chapter, the Texas Real Estate Association and Dallas Real Estate Board. Problems of management relating to the South will be discussed. From advance pledges we believe this class will reach capacity enrolment and be of great benefit to the Institute in the Southwestern part of the country.

Future Visits

In the fall I hope to be able to revisit many of the cities I have covered this spring and summer, as well as to make the trip through the South which had to be abandoned because of transportation difficulties.

Institute of Real Estate Management Proposed Revised By-Laws

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ARTICLE I

Name, Objects, and Government

Section 1: The name of this Institute is, "Institute of Real Estate Management."

Section 2: The Institute is a Corporation chartered under the laws of the State of Illinois on July 10, 1934.

Section 3: The objects of this Institute shall be the fostering of knowledge, integrity, and efficiency in the management of real property. To this end it shall:

A. Identify qualified individuals and organizations engaged in property management;

B. Establish Rules of Professional Conduct and Standards of Practice;

C. Conduct research in materials and techniques of property management;

D. Establish standards and exchange experience so that the results of management can be measured and recorded;

E. Disseminate knowledge through the publication of Journals, Manuals, Textbooks, and other media;

F. Develop educational facilities.

Section 4: The Institute shall be governed by its Charter, By-Laws, and Regulations.

ARTICLE II

Membership

Section 1: The Governing Council may elect to membership any individual who:

A. Holds any form of membership in a Member Board of, or an Individual Membership in, the National Association of Real Estate Boards;

B. Has been actively engaged in a responsible capacity in the administrative operation of real property for three years and has at least two additional years of experience in property management, or educational or allied practical experience acceptable to the Institute;

C. Subscribes to the By-Laws, the Rules of Professional Conduct, and the Official Pledge of the Institute;

D. Files an application for admission to membership on official forms furnished by the Institute, giving the detailed information requested therein in full, and signs an irrevocable waiver of claim against this Institute or any Member or agent for any act in connection with the business of this Institute and particularly as to its or their acts in electing or failing to elect, or disciplining him as a Member;

E. Pays an application fee of $10, which shall not be returnable;

F. Satisfactorily passes a written examination given by the Institute.

Section 2: Identification of Membership shall be by:

A. Use of the designation "CPM" which is an abbreviation of the words "Certified Property Manager" in connection with their name or signature. Such use shall always be dignified and in a manner satisfactory to the Governing Council. The designation "CPM" shall not be used in any way that might be interpreted as referring to an organization or a person other than the individual rightly entitled to its use;

B. Wearing this official emblem of membership which shall be presented upon admission to the Institute:

C. Display of the official certificate of membership issued by the Governing Council. The key and certificate shall forever remain the property of the Institute and shall be returned upon termination of membership. Should an ex-Member fail to return these evidences of membership upon demand, the President or Governing Council may cause notice of his membership status to be publicized in his locality and may bring any legal action deemed necessary to reacquire these articles.

Section 3: Financial obligations of Members shall be:

A. The payment of dues in the amount of $25 on January first of each year or immediately upon admission to membership. Adjustment of dues payment to a calendar-year basis shall be made on January first immediately following admission. Membership shall be suspended after three months' and automatically revoked after six months' delinquency.

Section 4: Termination of membership, except automatic revocation thereof, shall be by action of the Governing Council by:

A. Acceptance of the resignation of a Member;

B. Expulsion for disciplinary reasons after the opportunity of a hearing;

C. Approval of evidence of a Member's incapacity for membership because of illness or death.

Section 5: Reinstatement to membership shall be by Governing Council action following:

A. Reapplication as though he were a new Member (without payment of admission fee or examination);

B. Resubscription to the principles of the Institute;

C. Payment of delinquency assessed by the Governing Council.

ARTICLE III

Governing Council

Section 1: The Governing Council shall control and manage the affairs of the Institute and shall consist of:

A. Twenty-seven Members elected as provided in Section 2 hereof;

B. One Member appointed by the Board of Directors of the National Association of Real Estate Boards;

C. Any President or Vice President not a member of the Governing Council at the time of his election;

D. The five immediate Past Presidents of the Institute.

Section 2: Governing Councilors shall be elected by the membership as follows:

A. For a term of three elective years of this Institute which shall conform to those of the National Association of Real Estate Boards, or for any unexpired term;

B. After nomination by:

1. A Nominating Committee, provided for in Article V, Section 5, which shall convene at least one day before the Annual Meeting and shall receive recommendations from Members in good standing of individuals qualified to fill any vacancies. The Committee shall post its report at least two hours before the election;

2. Petition signed by at least ten Members in good standing and delivered to the Executive Secretary or the presiding officer prior to the election;

C. At the Annual Meeting of the membership at which each Member in good standing shall be entitled to one vote for each vacancy to be filled;

D. By ballot if more than one person has been nominated for a position. When elections are held by ballot, the Chairman shall appoint

three tellers who shall make a tabulation of the ballots and report to the meeting the totals of the votes cast. The Members receiving the highest number of votes for the Governing Council shall be declared elected, and the tellers will so certify in writing to the Secretary of the Institute, giving the number of ballots cast for each nominee. Any tie votes shall be decided by a majority vote of the members of the Governing Council present at the meeting;

E. Except that in the case of a vacancy occurring between Annual Meetings the Governing Council may elect a Member to fill the vacancy for the balance of the elective year.

Section 3: Regular meetings of the Governing Council shall be called by the Executive Secretary: during the first month of the elective year; at the time of the Annual Meeting of the Institute; and at least once in the intervening period. Special meetings may be called by the President upon petition of six Councilors and after two weeks' notice.

ARTICLE IV

Officers

Section 1: The President shall:

A. Be a Member nominated by the Committee provided for in Article V, Section 5, or by petition signed by five members of the Governing Council;

B. Be elected for a term of one year, or until his successor shall have been elected, at the annual meeting of the Governing Council at which each Councilor and Councilor-elect shall be entitled to one vote. Should there be more than one candidate, election shall be by secret ballot supervised by three tellers, appointed by the Chairman, who shall tabulate the ballots and certify the results to the Council;

C. By virtue of this office, represent the Institute in its affiliation with the National Association of Real Estate Boards;

D. Preside at meetings of the membership and the Governing Council and shall direct the affairs of the Institute in accordance with its Charter, the By-laws, and the policies established by the Governing Council.

Section 2: The Regional Vice Presidents shall:

A. Be Members representing each of the eight Regions established by the National Association of Real Estate Boards who shall be nominated in the same manner as the President;

B. Be elected for a term of one year, or until their successors shall have been elected, at the annual meeting of the Governing Council at which each Councilor and Councilor-elect shall be entitled to one vote for each position to be filled. Should there be more than one candidate for any position, election for that position shall be by secret ballot supervised by three tellers, appointed by the Chairman, who shall tabulate the ballots and certify the results to the Council;

C. Supervise the work of the Institute in their respective Regions and act as the representative of the President in such matters as may be assigned to them;

D. Succeed to the Presidency, in the event of the President's incapacity to act, in an order designated by the Governing Council. At least the first two successors shall be specified at the time of election.

Section 3: The Secretary shall:

A. Be the Executive Vice President of the National Association of Real Estate Boards;

B. Perform the duties generally prescribed to this office.

Section 4: The Treasurer shall:

A. Be the Treasurer of the National Association of Real Estate Boards;

B. Deposit all funds of the Institute, including any special funds, in the treasury of the National Association of Real Estate Boards, where they shall be segregated for the sole use of this Institute;

C. Keep proper records of the receivables, collections, and expenditures of the Institute, which records shall be open to the inspection of officers or members of the Governing Council of the Institute;

D. Render a monthly accounting to the Institute;

E. Pay all properly authorized obligations of the Institute provided they have been reflected in the budget approved by the Governing Council of the Institute and the Board of Directors of the National Association of Real Estate Boards.

Section 5: The Executive Secretary shall:

A. Be employed by the Governing Council of the Institute;

B. Carry out the routine organization duties under the direction of the President, and direct and coordinate the work of any other employees of the Institute.

ARTICLE V

Committees

Section 1: The following Committees shall be appointed by the President, subject to the approval of the Governing Council, for a term of three years or an unexpired term. The terms of one third of the members of each Committee shall expire each year. Committee Chairmen shall be appointed in the same manner for a one-year term.

A. The Accrediting Committee, consisting of one member representing each Chapter and not less than five members selected from areas not allocated to Chapters, shall receive and investigate all applications for Accrediting and recommend action thereupon to the Governing Council;

B. The Admissions Committee, consisting of one member representing each Chapter and not less than five members selected from areas not allocated to Chapters, shall receive and investigate all applications for membership in the Institute and recommend action thereupon to the Governing Council;

C. The By-laws and Regulations Committee, consisting of three members, shall study proposed changes in the By-laws or Regulations covering this Institute, its Governing Council, Divisions, Committees and local Chapters and recommend action thereupon to the Governing Council;

D. The Chapter Delegate Committee, consisting of one member recommended by each Chapter, shall consider problems of mutual interest affecting the Chapters;

E. The Ethics and Discipline Committee, consisting of three members, shall investigate and hold hearings, if required, and shall make recommendations to the Governing Council regarding any unethical or improper conduct of a Member, a local Chapter, or an Accredited Management Organization.

Section 2: The Executive Committee consisting of the President, as Chairman, the immediate Past President, and three members of the Governing Council appointed annually by the President, subject to the approval of the Council, shall perform such advisory functions as are requested by the President, shall submit an annual budget for the Governing Council's approval, and analyze the financial operation of the Institute thereunder.

Section 3: The Meetings Committee shall consist of a Chairman and two other members appointed annually by the President, subject to the approval of the Governing Council. Its duties shall be to plan and conduct the program portion of the membership meetings, including the selection of subjects and speakers.

Section 4: The Membership Committee shall consist of the Vice Presidents whose duty shall be to strive to make the membership of the Institute representative of the best management personnel in their respective Regions. The Chairman of the Committee shall be appointed by the President, subject to the approval of the Governing Council.

Section 5: The Nominating Committee shall consist of a Chairman and four other members each appointed for a term of one year by the President, subject to the approval of the Governing Council, and shall perform the duties outlined for them in Article III, Section 2B, and Article IV, Sections 1A and 2A.

Section 6: Special Committees may be appointed for specific purposes from time to time by the President, subject to the approval of the Governing Council, and shall perform their tasks and be discharged.

ARTICLE VI

Divisions

Section 1: The work of this Institute shall be divided into the following Divisions in order that the several objects of the Institute may be achieved and so that activity in each of these fields may be more effective and a continuity of purpose and effort may be maintained:

A. Division of Publications;
B. Division of Research;
C. Division of Standards and Planning;
D. Division of Education.

Section 2: Each Division shall be directed by an Advisory Board consisting of three members who shall be appointed for a term of three years by the President, subject to the approval of the Governing Council. In the same manner, but for a one-year term, one of the Advisors shall be appointed Chairman. Vacancies through the resignation or absence of any Advisor shall be filled for the unexpired term in the same way. The President shall be an ex-officio member of all Advisory Boards.

Section 3: Each Advisory Board shall strive diligently to further the particular objectives of its own Division and shall coordinate its program with the programs of all Divisions. It shall plan, direct and be solely responsible for the work of its Division, and shall conduct its Division in accordance with the Regulations referred to in Article VII.

ARTICLE VII

Regulations

Section 1: The Divisions, Committees, and Governing Council of this Institute shall operate in accordance with Regulations as adopted, amended, or repealed by the Council. A two third's vote of the members present at any regular meeting of the Governing Council shall be necessary to adopt, amend, or revise any such Regulations. The Regulations shall be binding but in no case shall they be in conflict with these By-Laws.

Section 2: A Member of the Institute may inspect these Regulations.

ARTICLE VIII

Meetings and Quorums

Section 1: The Annual Meeting of the Institute of Real Estate Management shall be held at the same time and place as the Annual Meeting of the National Association of Real Estate Boards.

Section 2: Meetings of this Institute shall be open to members of the National Association of Real Estate Boards, provided, however, only Members of the Institute shall be entitled to the privilege of the floor, to participate in the discussion, to vote, or to hold office.

Section 3: A quorum for the Annual Meeting or for any meeting of the Governing Council shall be those present and entitled to vote after two weeks' prior notice of the meetings.

ARTICLE IX

Local Chapters

Section 1: The Governing Council of this Institute may establish a local Chapter upon application of not less than five Members for the purpose of their mutual education, study of local problems, and the advancement of the work of the Institute, under the following provisions:

A. That its By-Laws shall have been approved previously by the Governing Council of this Institute and that no amendment to said By-Laws may become effective without the approval of the Council;
B. That its jurisdiction shall be limited to an area prescribed by the Council;
C. That it shall admit into its membership any Member whose principal place of business is within its jurisdiction;
D. That its meetings shall be open to attendance by any Governing Councilor;
E. That its membership shall be limited at all times to Members of the Institute;
F. That its actions always shall be in accordance with the By-Laws of this Institute;
G. That its Charter may be revoked by this Institute should its membership fall below five Members or for any other reason;
H. That it shall not act or appear to act as representing this Institute without specific prior authorization.

ARTICLE X

Accredited Management Organizations

Section 1: The Institute of Real Estate Management, after proper qualification, shall designate as an "Accredited Management Organization" any organization which:

A. Files an application for Accrediting on official forms furnished by the Institute giving the detailed information requested therein in full and signs an irrevocable waiver of claim against this Institute or any Member or agent for any act in connection with the business of this Institute and particularly as to its or their acts in Accrediting, failing to Accredit, or revoking such Accrediting recognition;

B. Has among its officers or as one of its management executives an individual holding membership in this Institute;

C. Is actively and reputably engaged in the business of real estate management;

D. Conforms to the minimum standards established by this Institute for an Accredited Management Organization;

E. Is deemed worthy by the Governing Council of the designation "Accredited Management Organization."

Section 2: An organization which has been Accredited shall be Reaccredited upon application from year to year if it continues to meet the requirements of Section 1, Article X.

Section 3: There shall be no fee for either Accrediting or Reaccrediting.

Section 4: The designation "Accredited Management Organization" shall be nontransferable and may be revoked by the Governing Council in the event of any material change in the ownership or personnel of the organization or for violation of the regulations of the Institute, or for other just cause.

Section 5: Each organization designated as an "Accredited Management Organization" shall be entitled to the use of the designation or its initials or the official emblem shown below on its stationery, advertising, or elsewhere in connection with its name, in any dignified and reputable manner but not in such manner as shall have been forbidden by the Institute.

Section 6: In the event of revocation or expiration of the "Accredited Management Organization" designation, the organization shall immediately return its current certificate and shall cease to display anything which would lead anyone to the assumption that the organization is still Accredited. The President or Governing Council may cause notice of the revocation or expiration to be publicized.

Section 7: The Governing Council of this Institute may delegate its authority in relation to investigation of applicants for Accrediting or Reaccrediting and for all matters in connection with Accredited Management Organizations except its authority to grant the original designation.

ARTICLE XI

Amendments

Section 1: These By-Laws shall be subject to addition, amendment, or revision by the Governing Council of this Institute provided:

A. Members shall have been advised of the substance of the proposed changes not less than thirty days in advance of the Council meeting at which action is taken;

B. Two thirds of the Councilors present at such meeting shall be in favor thereof;

C. The change or changes shall have been approved by the Board of Directors of the National Association of Real Estate Boards before becoming effective.

A Fuel and Utility Conservation Program

Consumption of fuel and utilities, two of the greatest items of expenditure in building management, in most cases is supervised by a minor employee. The Institute presents in this article a system of executive control of these costs based upon a successful program instituted by a large midwestern management organization.

MOST property managers are expert conservers; that is, they have developed to a fine science the techniques of economical expenditure and of long-term building maintenance. Owners' funds are spent with great care and usually only after some deliberation. Decorating, repairs, replacements, and renovations are ordered only after detailed inspections followed by carefully drawn specifications, and thorough supervision of the work. The expenditures themselves are carefully weighed to determine whether or not they will produce (or conserve) value in the property commensurate with their cost. The money is spent by the manager personally, and every dollar of outgo is subjected to careful scrutiny and to executive decision.

Despite these developing techniques in the supervision of disbursements, there remains in many management organizations a large gap in operative control. The two greatest items of expenditure are made in the manager's absence and almost without his knowledge. We are referring to the consumption of fuel and utilities. The money for fuel (and also for gas, electricity and water) actually, of course, is spent at the time it is consumed. In most buildings this consumption is handled by a minor employee. The janitor or fireman is the person who daily supervises this expenditure while the building manager at most keeps a record of consumption and takes a look into the fire box once a week. Even in those buildings large enough to support a resident manager, this man or woman must, because of the size of the property, concern himself or herself primarily with tenant relations, renting, and record keeping. The resident manager goes into the boiler room only when something goes wrong and the supervision of the expenditure there is very considerably less than that over other items of maintenance and operation. This is true in many management organizations, especially in their supervision of medium-sized apartment, office, and store properties.

The great industrial consumers, on the other hand, the large housing projects, and the skyscrapers have always been comparatively efficient users of fuel and utilities. They have had the great advantage of being able to employ expert engineering staffs and have been able to furnish their plants with expensive gauges, firing equipment, and special controls. Many large high-pressure steam plants, for example, have used technical data and equipment to secure efficiencies running better than 75 per cent, whereas it is a well known fact that it is unusual for a hand-fired boiler in an apartment building to achieve an efficiency of 56 per cent.

An examination of the literature and engineering facilities in this field also makes it clear that most of the research and most of the technical articles have been concerned primarily with increasing the efficiency of these same large plants. The small operator, that is, the small consumer of fuel and utilities, has had to shift for

himself. He has had to depend upon his janitor and the corner plumber for most of his decisions; and supervision of the heating of his building has been limited severely by his multitudinous duties. Also in many instances, his janitor or his engineer has a divided interest; that is, he works for other buildings and other bosses, as well as for the plant in question.

While it is clear that the situation described above has resulted in tremendous wastage of fuel and utilities, this is in no sense an indictment of property managers or their system of operation. It has not been physically possible to do much better. The cost of constant adequate supervision by an expert engineer at each plant would, in all but the largest properties, be greater than any possible saving that could result.

"Perhaps my janitor is wasting some coal and electricity," you may say. "I can't stand there watching him all the time. Aren't you really talking about an insoluble problem?" This is a fair question, as it is obvious that there are thousands of operations in all fields which would be more effectively accomplished if given more expert supervision but in which the saving would be inadequate to pay for the additional time spent. This occurs all through manufacturing and merchandising processes, as well as in the field of management. Yet there is a partial answer to this problem in our field. A manager may not be able substantially to increase his supervision but he can create a situation in which his employees, in this case the janitors and firemen, can do some of his supervision work for him. A thorough system of control, coupled with constant instruction, plus a real incentive on the part of the janitor toward better performance can take the place of a large part of the value created by expert supervision.

After several years of careful study of this situation, one of the large midwestern management organizations determined to attempt just such a program. Its experience indicated that whereas there were on its staff several men who knew heating plants well and knew how they should be operated to get the most efficient results, this "know-how" was not disseminated sufficiently among the employees who were doing the work. It also discovered a considerable gap between the manager's intentions to do a good job and the performance of the men in the boiler rooms. These gaps are of particular importance in the light of the dominance of the human element as a factor in heating efficiency. It is more variable than fuel or equipment and is almost as great a determinant of heating costs as the weather itself.

This organization, therefore, decided to close some of these gaps and to increase effective supervision of fuel and utility consumption. It is largely with the story of its program for fuel control that this article is concerned. It is hoped that the experience of this organization will be helpful to others who are faced with similar problems.

Program for Effective Supervision of Fuel Consumption

The program itself was formulated by this company on a plan to increase efficiency through a three-fold simultaneous effort: first, the initiation of a program of instruction of all "on-the-spot" employees; second, the creation of a competitive psychology between the staffs of similar properties; and third, the revision and improvement of central office fuel and utility consumption records.

The organization first set up a special, separate division for the control of fuel and utilities. That is, a young engineer employed by the maintenance department of the company was selected to super-

vise activities relating to fuel, gas, water and electricity in all buildings. Whereas this job previously had been divided among several people, the first step was to concentrate activities in the hands of one man. He immediately started a program of instruction of all personnel having to do with the consumption of fuel and utilities at company buildings. At first this meant only the janitors, superintendents and firemen, but as the program grew it came to include building managers and district superintendents as well.

Instruction Through Monthly Fuel Bulletins and Lectures

A Fuel Bulletin, published once a month through the heating season by the company supervisor, was the medium of instruction. A survey of employees made before the Bulletins were written revealed that while there is a great fund of practical knowledge among men who are handling boilers, and electrical and plumbing equipment, there are also a great many misconceptions. A large part of "practical" operating techniques are the result of superstition, hearsay, and guess work, all of which have resulted in the permanent establishment of many wrong and harmful practices. Many of the more successful plant operators have become so merely because their plants have seemed more or less to fit the current superstition about boiler water level, thickness of fire bed, or some other phase of the heating process. The reason for this situation is, of course, that most plant operators do not really know how a heating plant, or a pump, or an electric motor works. They do not understand what occurs in the fire box or in the motor housing.

The first step, therefore, in the instruction program was a short course in the theoretical aspects of fuel consumption. The course involved two meetings at which there were discussions of combustion as related to the production of commercial heat. At these meetings the importance and dignity of the fireman's job were emphasized and the men were told that the production of commercial heat was a highly delicate operation and that combustion is as thoroughly complicated a chemical reaction as any found in a laboratory. The standard "put on the coal and let it burn up" technique which is so frequently encountered in small operations, they were told, is a highly effective method of merely disposing of fuel, but the efficient production of heat or power is as difficult a technical process as the production of high test gasoline or the construction of high tolerance machinery.

The complications of the combustion process become more apparent when it is remembered that in large fuel burning operations millions of dollars have been spent on delicate refinements in fuel burning apparatus and machinery. We have all seen the mass of complicated equipment contained in large generating plants, steamships, railroad engines, and large office buildings. The men were told, however, that these huge amounts of money are spent more for visual control equipment than for actual combustion equipment. The large users of fuel have discovered that the man who knows in detail at a glance what is taking place in his plant, is the most effective operator. No amount or type of equipment automatically performs the work of a skilled fireman; at best it merely keeps him accurately informed. The class was told that the true key to efficient heat production is to know what is happening in the boiler. They were advised that knowledge of combustion and careful observation could in large measure achieve in their smaller plants the success large users have secured through "gadgets."

Coincident with these meetings monthly

mimeographed Fuel Bulletins were prepared. The first issue presented some theoretical discussions of heating plant operation. Following is the Bulletin entitled "Combustion Is Chemistry" * which tells what happens in the fire box:

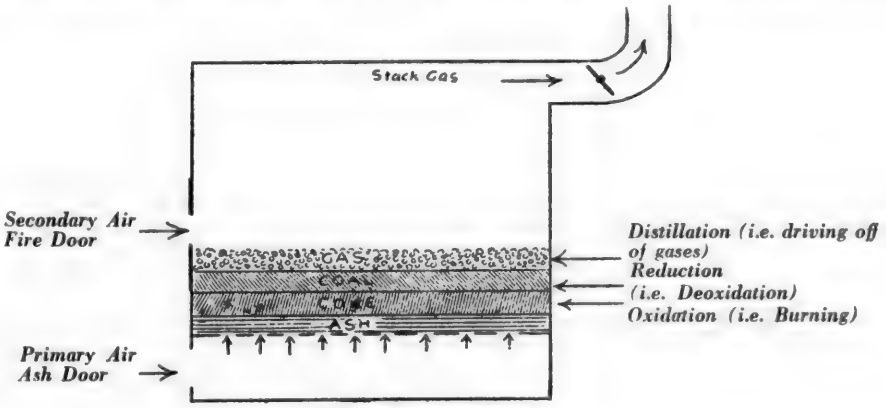
Combustion Is Chemistry

The chemical term "combustion" or burning, is nothing more than rapid oxidation. That is to say the various elements of which the fuel is composed are combined with the oxygen in the air. It is possible, of course, to have oxidation without combustion. An example of this is the slow oxidation of iron, where metal slowly combines with the oxygen in the air to form iron oxide (rust). Polished hardware fittings which tarnish without having been in contact with anything but air, are another example of simple oxidation. When the speed of oxidation is increased to the point where burning occurs and the reaction takes place rapidly, it is called "combustion." If the oxygen combines still more rapidly to a point where it is nearly instantaneous the reaction is so violent that it is termed an "explosion." In all of these cases the combining of oxygen (from the air) with another element or compound gives off heat. On the other hand, if oxygen is split off or taken away from a compound the reaction takes up heat. Thus it is possible in some instances to lose heat because of improper firing conditions.

An analysis of coal shows that its chief element is carbon. Besides this it contains certain amounts of so-called "volatiles" such as some of the hydrocarbons like acetylene. Also contained are some sulphur, some moisture, occasionally some hydrogen and, of course, always ash.

The fuel bed in a hand-fired furnace consists of a number of different layers or zones. Lying on the grates is, of course, the ash. This represents the incombustible residue which is left after the coal is burned. For all practical purposes this is waste material completely, although there may be present small amounts of unconsumed carbon. Just above this is the coke bed. Coke is the product which remains after all the volatiles and moisture have been driven from coal. As the coal is heated and goes down into the lower part of the fuel bed it forms this layer of coke. Here oxidation is taking place as the primary (draft) air enters through the bottom of the fire box and comes up through the grates and ash bed. This air is controlled by means of the slide opening to the ash pit and also by the depth of the bed of ashes through which it must pass before it reaches the coke. (It is interesting to note that under laboratory test conditions no matter how much air is fed to a carefully tended fuel bed which has no "blow holes" or defects in it, all of the oxygen in the air is exhausted by the time it passes through four inches of coke.) Next to the top layer is, of course, the coal. This coal is being heated by the fire below and in the process the volatiles are distilled off to form a top layer of distillates in the form of gas. There is, of course, a great deal of heating value in this gas. It is essential, therefore, that a proper air supply be mixed with it to assure that it is completely consumed before it escapes up the stack.

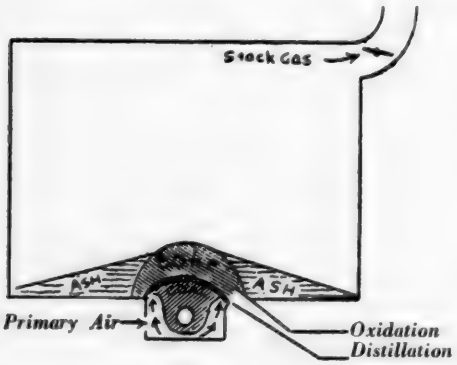
Back in the coke layer the coke and oxygen have burned to carbon dioxide, often called "CO_2." This compound passing through the upper part of the coke bed and also through the coal sometimes picks up more carbon (that is, it is deoxidized or "re-



HAND FIRED

* This and several of the bulletins which follow were prepared by CPM, William O. Campbell.

duced") and it, therefore, works backwards to carbon monoxide (CO). This reaction takes up heat and thus tends to cool the fire. It is possible, however, to burn this new carbon monoxide to carbon dioxide (along with other carbon monoxide which is the result of incomplete combustion from the carbon in the coal and coke) to again form carbon dioxide in the upper part of the fire box. This process, together with the burning of the distilled gases, produces the flame on top of the fire. The proper control of secondary air entering the fire box and of the stack draft is essential if every BTU (heat unit) possible is to be extracted from the above chemical reactions among the gases before they are lost. The amount of secondary air is regulated by the ports in the fire door, and by the amount of draft in the stack. If too little air is admitted, not enough oxygen will be present to complete the combustion of all these gases and the result will be excessive smoke and lost heat through incomplete combustion. If too much air is admitted or the draft is too strong, the gases will be whisked out up the stack before they have time to burn. In this latter case not only will heat be lost but probably excess fly ash will be carried along to clog the flues of the boiler and be deposited upon the surrounding neighborhood from the stack. In brief, the greater the amount of carbon dioxide produced the more complete is the combustion, and the greater the amount of carbon monoxide the more chemical heat is being wasted up the stack. Therefore, heating engineers take Orsat tests in the breeching to determine the percentages of these two gases at this point. At the same time they usually take the temperature of the gas in the stack to be sure that it is not too hot. If it passes out at too high a temperature it usually indicates faulty boiler construction and that all the physical heat resulting from the burning is not being extracted.



STOKER FIRED

An underfed stoker-fired furnace operates somewhat differently from a hand-fired plant. There are two things missing in a stoker-fired unit. First, the secondary air source and second, the reduction zone. The coal here is fed in from the bottom and the heat of the fire bed and the retort drives off the distillates. These are consumed immediately as they pass up through the coke or oxidizing zone. As the stoker runs this coke is consumed and the residual ash falls off to one side so that the bed is never tight enough or deep enough to allow "reduction" to take place. This is a large part of the reason for superior stoker efficiency. The same problems hold true, however, as to the amount of air admitted, the amount of draft used, and the temperature of the stack gas.

Subsequent Bulletins were concerned with further aspects of the processes of combustion, absorption and distribution which are involved in heating buildings. Each month a "lecture" was included. The Bulletins were sent to all members of heating staffs of the company buildings as well as to all managers. They were written in as simple terms as possible and profusely illustrated. Many times also there were semi-humorous cartoons included which helped to emphasize a point. The Bulletins which immediately followed the one quoted above continued the general description of educational (and semi-theoretical) aspects of heating and discussed typical boiler control instruments in order to establish the background for more specific information which was to follow.

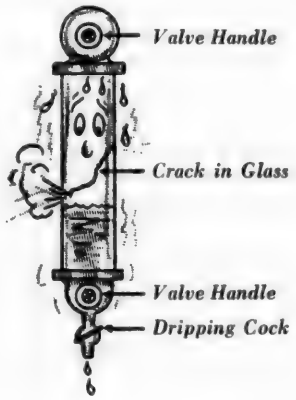
In order that a picture may be secured of the types of these subsequent Bulletins the two which immediately followed are printed below. The first one concerned "Gauges" and the second "Draft Control."

Gauges

Last month the Fuel Bulletin discussed what was going on inside the fire box of a heating plant. It now proposes the consideration of the boiler itself, or rather, certain attachments which tell what is inside it at any given time and which protect it. All or nearly all of the following equipment is found on every boiler. Pressure and vacuum gauges, water gauges, tri-cocks, and safety valves. There are other things which may be found, some

of which may be discussed at some later date; but the foregoing are the bare essentials.

Too often even these bare essentials are looked upon as gadgets and are treated as such. The most that is ever asked of many of them is that they don't leak. Worse yet is the fact that even leaks are not always taken care of. All of us have seen more than one cracked water glass whistling to keep its courage up to say nothing of sullen safety valves that were so abused that they made up their minds never to save anybody.



Every man who handles a boiler knows that the water gauge is put on it to tell the level of water inside. He knows, also, that too little water will cause the boiler to burn out, and too much may put water in the steam lines. All boilers have been designed so that water at a given level will give the maximum efficiency. An appreciably greater or lesser amount of water, even though it is not enough to do the plant bodily harm, will cut the operating efficiency. Everyone has seen boilers with cracked, dirty or broken water gauges which could not be read. No competent superintendent would allow this condition to exist. Water gauges must be kept clean and tight.

Most boilers have tri-cocks on them, but it's hard to say when some of them were last tried in many cases. Tri-cocks offer a positive proof of the water level. There are usually three of them in a vertical line. Water should never be above the top one nor below the bottom one. The water level is supposed to be exactly at the center fitting. When a tri-cock is opened either water comes out or it doesn't. There is no simpler and more satisfactory proof as to where the water is than this. It is true that there are water gauges on boilers to tell the same thing. They are handy devices for they show intermediate heights and give the answer at a glance; but there are good reasons for having tri-cocks.

The water glass has certain drawbacks. First, it is based on the principle that water seeks its own level. This is true, but if something prevents it from finding its level, it doesn't say anything about it. It just keeps trying. Any water, dirt, or a closed valve which traps air in the glass or prevents water from entering and leaving it freely will cause it to read inaccurately. Secondly, glass gauges can break; but the level of water in an operating boiler is too important (if for no other reason than safety) to wait for repairs. Again the tri-cock is simple and positive. Keep them in working order. Use them often as a check on the condition of the water gauge.

There is another type of gauge which tells what is going on in the boiler. This is the pressure gauge. The majority of heating boilers are what are known as low pressure, that is to say, they operate at pressures under 15 pounds to the square inch. In actual practice these plants are not operated more than 10 pounds per square inch. It is well not to exceed the rated pressures as the plant is not engineered for anything higher and explosions can occur. The pressure gauge helps to avoid this—if it is in good working order.

Many heating plants operate, part of the time, on vacuum vapor. In such cases it is necessary to have a vacuum gauge to tell how efficiently such a plant is operating. In a great many instances this gauge is actually a part of the pressure gauge, and as such, it is known as a compound gauge. It is not recommended that the superintendents attempt to test or adjust these gauges themselves. If it is suspected that the readings obtained are faulty the gauge should be tested by a qualified person. Such a test is made by fastening the questioned gauge on a line with the master gauge, which is attached to a pressure device. The inspectors of boiler insurance companies usually have equipment of this type and are glad to make an inspection of any plant that they insure. It is usually possible to get them to make an inspection of gauges that are not attached to property that they cover by the payment of a nominal fee.

The basic principle of construction of pressure and vacuum gauges is quite simple. It is based on the fact that a small bent tube which is sealed at one end, will tend to straighten itself when pressure is supplied to the air inside the tube. Inversely it will tend to bend more if a vacuum is created in it. In a gauge this tube is called the bourdon tube. The sealed end is attached to a small ratchet by a lever. This ratchet activates a gear mounted on the shaft of the indicating hand. The open end of the bourdon tube is connected to a pipe leading from the top of the boiler. This pipe transmits the pressure or vacuum in the boiler to the gauge. The bourdon tube, however, must be protected from the action of steam and high temperatured fluids so a syphon is inserted between the gauge and the boiler.

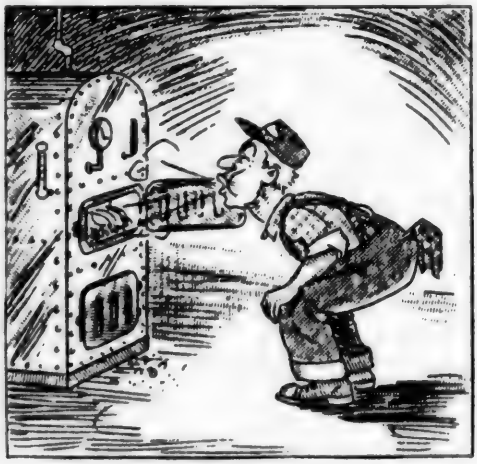
Some gauges have this syphon built into them as an integral part of the device; but in the majority of cases it consists of a loop or so-called "pig-tail" in the connecting pipe. The loop holds water which acts as a seal to prevent undue heat from striking the tube. At the same time it transmits pressure variations to the air trapped in the tube above it with no appreciable variations. If, for any reason, the gauge and pipe should be removed, care should be taken to see that the proper amount of water is in the syphon when it is replaced.

Just a final word on the subject of gauges. Be sure to look twice at the calibrations. Many low pressure gauges read one pound for every main division and one ounce for each line up to 10 pounds or thereabouts; but after that each line is equal to 5 pounds and a division may equal as much as 20 or 30 pounds. This type of gauge is known as a retard gauge. The calibrations of different makes of gauges vary and a superintendent should take careful note of the basis on which his gauges are marked. It should be noted whether they are in inches or centimeters of mercury, or in some cases, the gauge may read in terms of a column of water.

The "safety valve" is, of course, just what the name implies. It is a valve to relieve pressure and prevent the explosion of the boiler. There are two basic types, one of which is held down by a weight and the other by a spring. In either case the weight or tension on the spring is so adjusted that the valve will be blown open before an unsafe pressure is reached in the boiler. It is imperative that safety valves be kept clean and in good working order. The safety should be opened by hand at least once a month when there is a pound or two of pressure. In this way the valve is kept in condition to do its job if needed, and the lives of all who have to do with the plant are made much safer.

Draft Control

Proper draft control is probably the single most important factor in efficient combustion. This technique of furnishing the right amount of oxygen to the fire is more important today than ever before. The poorer fuels and dirtier coal made necessary by the war take extra attention. Each superintendent should understand draft and should see that his plant is furnished the optimum amount of air to result in the most complete burning.



DRAFT!!

"Draft" itself is not air in motion, it is the difference in the pressure inside as opposed to outside the fire box or chimney. It is this difference in pressure, usually measured in inches of water, that causes the air to blow. The amount of draft available in a plant is determined by the size of the stack (both in area and in height), the temperature of the stack gases, the temperature and motion of the outside air, and the design of the boiler.

It is apparent that draft conditions vary, not only from plant to plant, but from day to day and hour to hour in the same plant.

Figure I shows a typical air flow through a hand-fired boiler with some of the standard devices for controlling it. (The passage of hot gases over the water-backed surfaces has been omitted for the sake of simplicity.) The "primary air" enters at (1) and passes up through the grates, ash and fire bed. "Secondary air" enters at (2) to complete combustion. After this the hot flue gases pass through the tubes, the breaching and out the stack at (6).

There are either louvers or a lift door on the ash pit door at (1) which regulate the amount of air entering there. The fire door at (2) also has louvers for controlling the entrance of air. At (3)

there is an entrance for air from the boiler room so that the "pull" of the draft may be by-passed (i.e., checked) as desired by opening a small door. This allows a portion of the pull to be satisfied by excess air rather than by taking hot gases from the boiler at too great a rate. At (4) there is a so-called "butterfly damper" which can be turned to allow more or less space for the passage of air and stack gases.

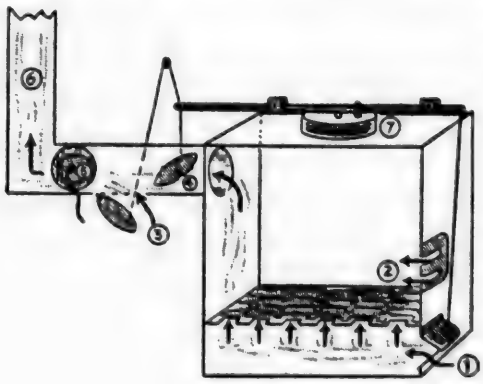


FIG. I

In many plants these "control" doors and louvers are operated manually to secure just the right adjustment.

Diaphragm Control

Figure II, however, shows a diaphragm draft control and is an expansion of (7) in Figure I. (The case which protects the diaphragm and supports the control arm has been drawn a little high so that the diaphragm pin and nipple arrangement can be shown separately, but in relative position, thus illustrating how individual parts may be replaced.)

The diaphragms are made of two saucer shaped pieces of sheet metal soldered together in the shape of a discus. There is a brass male fitting in the center on one side and a female fitting on the other. The disk is hollow and both sides are corrugated to allow for expansion and contraction. Different size installations have different numbers of diaphragms, although from two to four are the most common.

The bottom plate of the housing is made of cast iron. A fitting on this housing is attached to the top of the boiler by means of a long nipple. This nipple is tapped into the steam chest.

A small brass close nipple is tapped into the top of the base plate, and the bottom diaphragm is attached to it. The required number of diaphragms are mounted one on top of the other by means of the attached fittings. A cap with a "pin" or rod on the top is attached to the top diaphragm making a tight closed system. A cast iron cover for the assembly fits on with the "pin" projecting through a hole in the center.

The lever cross arm is pivot mounted by means of needle adjusting screws so that it rests on the projecting "pin." One end of the arm is attached to the draft door and the other end to the check and damper. The arm is hooked up in such a way that when the pin rises it closes the draft, closes the damper and opens the check. When the pin falls the reverse takes place. Weights are put on the arm to balance the load of the controls so that little effort is needed to move them. The procedure is quite simple. As the steam pressure rises in the boiler, steam enters the diaphragms, causing them to expand and raise the pin on the top. This pushes the arm up and opens the check, at the same time closing the damper and draft. As the fire dies down and the steam pressure falls, the diaphragms contract, withdrawing the pin and allowing the arm to pivot in the opposite direction. This opens the draft and damper and closes the check, causing the fire to pick up and the cycle to repeat. In actual practice the motion is slow and many times both the check and the draft may be partially open at the same time.

When properly adjusted this device makes for a more even heat and a longer period between firings.

All superintendents who have such a set of controls should check up and see that they are properly adjusted and operative. In the event that the pin does not rise and fall with the steam cycle it usually means that one or more of the diaphragms are cracked and should be replaced. In some cases a cracked diaphragm will leak steam to a point

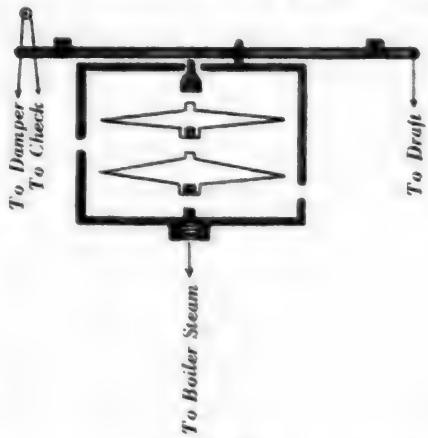


FIG. II

where it may be detected, but in many others the leak is small enough so that the chief effect is to allow air to be drawn in and condense the steam.

This will cause the unit to become water bound and stop its functioning since the liquid does not allow passage of steam to any appreciable extent and is itself uncompressible.

Care should be exercised in the handling of the diaphragms as the threads on the fittings are quite fine and rather easily stripped, and since rough handling or undue compression of diaphragms may crack one of them.

Barometric Control

Figure III shows a barometric draft control. (Also shown at (5) in Figure I.) It is simply a short section of pipe of approximately the same diameter as the breaching to which it is attached. At the open end of the control a metal flap is mounted on a pivot in such a way that when it hangs vertically it closes the opening; but so that a pull such as exerted by an excess draft in the breaching will cause it to tilt inwards at the top and out at the bottom. This allows air from the boiler room to enter the breaching and thus checks the fire, that is, prevents too much pull from being exerted on the flue gases in the fire chamber. A small adjustable weight is mounted on the bottom portion of the flap and the amount of pull necessary to open it may be controlled by making adjustments at this point.

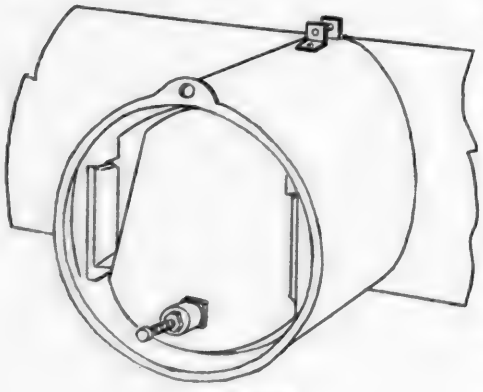


FIG. III

The proper amount of draft necessary to insure good, efficient combustion varies somewhat with the individual plant, the fuel used, and the method of firing. In most low pressure heating plants it will be between .12 and .16 of an inch of water. Draft of less than this will result in smoke and give trouble in firing, while greater draft will waste fuel. A simple "rule of thumb" test that a superintendent can make without a draft indicator is to adjust the passage of air in such a manner that it will just hold a piece of tissue paper against the cracks or louvers of the fire door.

The function of the barometric draft control is to help keep this draft constant. The weight is set so that any draft in excess of that desired will cause the flap to open and relieve the excess pull. Thus changes in either the stack temperature, outdoor temperature, or gusts of wind, are automatically compensated for. This prevents unintentional "forcing" of the fire with a consequent waste of heat and fuel.

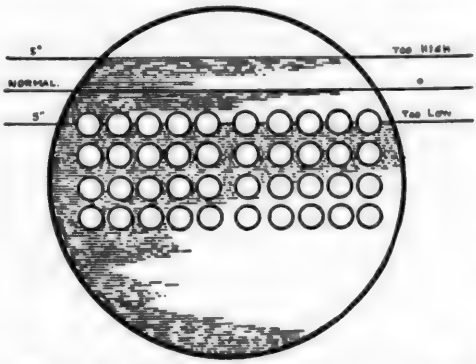
In some instances these barometric controls are motorized. That is to say, a small electric motor is mounted so that it opens and shuts the flap. The motor is controlled by an over fire draft device which operates as a switch. With this type of equipment it is possible to have a "time lag" so that the puff of gas and soot which accompanies a firing up will have an opportunity to escape before the check opens. This prevents undue deposits of soot in the breaching. A lack of such time lag in the non-motorized control is the main failing of an otherwise simple and efficient device. This weak point is not so serious in the case of hand-fired plants as it is with mechanical plants where the fire starts suddenly.

The Boiler Room

It must be remembered that to secure sufficient draft there must be plenty of air available in the boiler room. Unless enough air is coming into the room through cracks it is best to leave a window partially open. An overheated boiler room (if the plant is properly insulated) is a sign of air shortage. Another sign is a partial vacuum as evidenced by "pulling" doors and windows.

Water Levels and Flue Punching

Subsequent Bulletins were designed to sell the importance of various special phases of the heating problem, and were concerned with individual points. It was found, for example, that many plant superintendents have pet ideas based upon little more than superstition as to the proper water levels for their boiler. The proper or normal water line, therefore, had to be determined officially for each boiler and the janitor shown on his glass gauge the height at which the water should be kept. He also was given a little chart via the Fuel Bulletin which he could hang on his boiler room board. It explained the reason for keeping



Watch the Water Level. There is more to this than keeping a fuse plug from burning out.

The normal water-line gives the greatest water area for evaporation.

Too much water cuts the area of evaporation and, hence, the efficiency. In a given boiler this may be as much as 22% for a 5 inch excess.

Too little water will cut the water area as much as 70% by exposing a good deal of the tube area and confining the water to the space between them. This not only cuts the surface available for evaporation, but wastes a great deal of the heat in these tubes by not transferring it to the water at all.

the water level constantly at the proper point.

Another point of emphasis involved punching flues. In the ordinary fire tube type of boiler this is hard work if it is properly done. The results are not immediately spectacular and the tubes get dirty again very shortly. Flues are to a boiler fireman what dirty dishes are to a housewife. It is one of the unpleasant parts of his job and it is work that is never really done. A recent Bulletin, therefore, contained a lecture on flue punching which described the insulating value of soot and ash. It was pointed out that these are among the most effective insulating materials there are; they are so good, as a matter of fact, that if they could be applied to the linings of ice boxes and houses, in the same manner as they are found in flues, they would soon replace rock wool and asbestos as an insulating material. It was pointed out that the insulation in the fire tubes keeps the full heat of the fire from reaching the boiler and that the wasted heat then goes up the stack. If a four-inch tube is reduced to a three-inch diameter by an accumulation of soot, it will waste about 45 per cent of the fuel. As a matter of fact, a layer of soot in a flue is worse than the same thickness of scale on the other side. The Bulletin on flues described the type of flue scraper which should be used (the razor blade type) and described how they should be checked to see that they are of the proper dimension. It pointed out that the cleaners wear and their fit must be checked from time to time (the proper fit exists when the blades of the scraper all bend slightly) and it showed that when this fit has been secured it will be impossible to withdraw the scraper without pushing it all the way through the flue. The Bulletin stipulated that the flues should be punched once a week in the summer, twice a week in normal winter weather, and three times a week in very cold periods, and emphasized this requirement by a cartoon showing the fireman reminding himself to clean his flues an extra time during the extreme cold weather. (See cut, page 306).

The Weather

Each month's Fuel Bulletin contained in addition to the monthly "lecture" a discussion of the weather for the preceding month. This was the result of the discovery of a need to make firemen superconscious of weather conditions. There were, therefore, constant descriptions of the weather, and of the firing techniques required by past weather (particularly when unusual) as well as those that might be required during coming weather. Each month a bar chart was published showing the number of degree days in the preceding month as well as the number of degree days in the same month a year ago, and the number in a

normal month. In February the chart looked like this:

Degree Day Contrast

FEBRUARY 1945—1,014 degree days

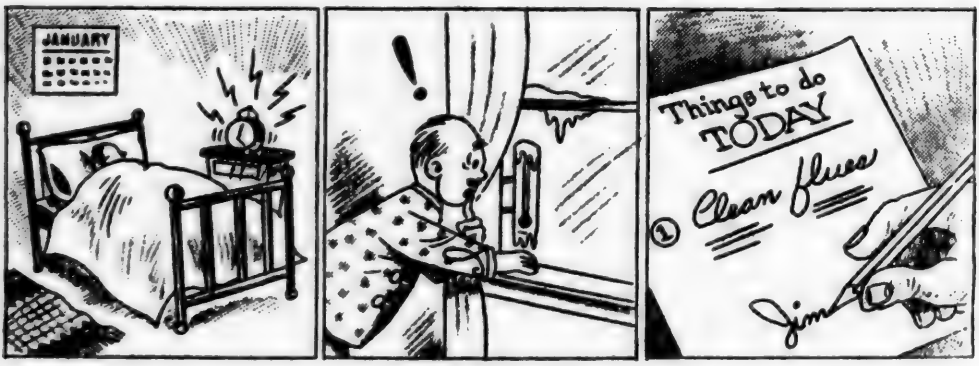
FEBRUARY 1944—1,044 degree days

NORMAL FEBRUARY—1,080 degree days

It is here apparent that February of 1945 was a little warmer than the average and also a little bit warmer than February a year ago. A janitor could check his average February consumption and his consumption a year ago with his current consumption to see how it compared with the chart.

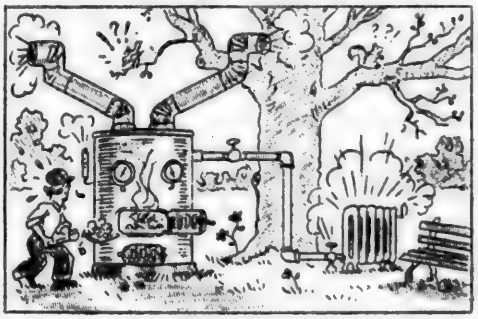
The weather discussion also included a description of the total wind movement for the month as opposed to the preceding month, and as opposed to the same month a year ago. A description of the wind velocity during the month was also given and data shown as to the prevailing wind direction currently as opposed to similar periods in the past. Thus superintendents not only became conscious of temperatures but of wind as well. This latter, of course, has almost as great an influence upon firing techniques as does temperature, both in regard to draft control and the production of heat for the units facing the prevailing wind. Relative humidity was not ignored as a heating factor and contrast between various periods in this regard were also drawn.

Each spring and fall particular emphasis was drawn to the fact that periods of swift temperature change are frequent and result in considerable fuel wastage. The fireman was instructed to inspect the exterior of his building several times each day to look for open windows. These are, of course, a sure sign of overheating and should be watched during changing temperature periods with special care. Here, again, the writer of the Fuel Bulletin constantly kept in mind the psychological advantage of the use of cartoons and pictures in putting an idea across. While a large part of the material is somewhat technical, a serious attempt was made to keep the Bulletin as nontechnical as possible and to use drawings for explanation and cartoons for emphasis. It must be remembered that a large number of the readers were poorly educated and a great many others were foreign born and had, therefore, a somewhat limited reading vocabulary in English. It has been found, therefore, that pictures are not only important but they are almost essential to



THE WEATHER

proper understanding. Tests showed that the effectiveness of a message was more than doubled through the use of a picture. As an example, in the case of the admonition that open windows are a sign of overheating, pictures were used showing a building with windows open and the heat escaping to the outdoors. Readers were



told that the tenants did not open these windows "just to be mean" but because they were too hot. To show that there is no advantage in attempting to heat the great out-of-doors a cartoon was included wherein the boiler was located in a park (see cut) and the janitor was considerably the worse for wear.

It must not be imagined that this education through Bulletins had startling results overnight. Many of the men resisted instruction. Most of them accepted the instruction but promptly forgot it. A lot of them thought they knew everything about their plants already and, of course, a few of them did know a good deal. The effect, however, has been cumulative. That is, while there was at first only a small appreciable improvement in technique and only here and there a decrease in the use of harmful practices and inefficient operational methods, this continuous repetition of information presented in different ways through lectures, bulletins, pictures and cartoons gradually had an effect of considerable magnitude. The total effect has grown over a period of several years and has resulted in an organization of firemen considerably better informed than they were at the beginning.

Any property manager knows, as does any other executive who deals with unskilled labor, that simple general orders will not get compliance. One cannot tell a fireman, for example, merely to keep his fire tubes clean, nor in general, can one tell him to punch his flues three times a week during cold weather and find that he will do it effectively. He must be convinced of the necessity or value of the operation or he will skimp on it, skip it, or just do the tubes in the lower part of the boiler that are easiest to inspect. The man must be convinced over a period of time that this operation is not only necessary and valuable, but that it will in the long run make his work easier and more effective as well. This requires not only instruction or education; it must result from real *conviction*. Conviction can be created only partially through education and supervision. The man who is *convinced* that cold weather requires flue punching three times a week, however, is a man who has "heard about it for years." Our great advertising organizations and political propagandists long ago learned that the key to conviction was repetition and, more than that, that the effect of repetition is parabolic—that the thousandth repetition is more effective than the second or even the five hundredth. The educational program started by this one large management organization, therefore, has become effective only through real continuity of effort over a long period of time. It has now been conducted for several years and the fuel efficiency record of the organization is perhaps unexcelled any place. It must be borne in mind, however, that this is the result of years of effort and that a few

lectures or a few months of instructions are almost valueless. Only a permanent program is worth undertaking at all.

Competition Among Building Superintendents

When we spoke first of a program of fuel and utility control, it was emphasized that most present organizations suffer from an inadequacy of skilled supervision. The preceding section of this article has dealt at some length with increasing the "skill" of the men who actually are handling the equipment. It has dealt with the educational phase of the program alone. It is clear, of course, that a firm cannot compensate for poor supervision entirely through the training of unskilled employees. Merely to teach a man how to work will not assure the employer that all of the necessary work will be done nor even that it will be performed properly. There must be some incentive. In the large plants and in the big industrial organizations this incentive is furnished primarily by close constant supervision. There is nothing, of course, that can entirely take the place of such supervision in securing proper performance. There are, however, other incentives which can be used to good effect. The organization which initiated this fuel conservation program, therefore, evolved a technique which has resulted in the creation of a competitive psychology between the staffs of similar plants to add "incentive" to their program.

The name of each superintendent and his plant is listed each month in the Fuel Bulletin together with the results of his preceding month's operation. The plants themselves are divided into three main categories: the stoker-fired plants; the hand-fired plants; and the oil-fired plants. Within these groups each superintendent is in competition with the superintendents of all the other plants in his group and he is ranked against them. It is this ranking which is really the crux of the entire system. It is actually the ranking that has made the firemen really interested in doing a good job. It has kept them interested in the educational program of the organization and is to a large extent responsible for the beneficial effects of that part of the program. It has kept the men constantly on the lookout for ways to improve their plants and to improve their own operating techniques. Although the organization gives a prize to the superintendent in each category whose plant has the best record for the heating season, the principal effect has come merely from the competition itself. The Fuel Bulletin publishes each month the records and rankings of all of the plants in the organization together with approbation for and a discussion of the results of the leaders and there is, of course, a consequent embarrassment for those who are low on the list.

Method of Ranking Buildings

The problem of ranking buildings fairly, however (that is, rating the efficiency of the crews operating the plants), is extremely difficult to solve. Experimental methods of comparing heating costs and operations between different buildings have been in use for many years. If buildings were all of the same construction, size, location, age, and exposure it would be an easy matter to compare them. Unfortunately this is not true. Buildings are like people and ships —each has its own individuality. Henry Kaiser is building ships by mass production yet no sailor would say they all sail and handle the same. During the building boom many apartment buildings were erected from the same or typical sets of plans, yet no two handle exactly the same over a heating season. Everyone knows that lemons and supercars come off the

same production line and so it is with multiple housing. Until recently the most effective comparison technique was one which figured the cost of fuel burned per degree day per square foot of direct equivalent radiation for each building. That is, the cost of fuel burnt reduced to common temperatures and common areas of space to be heated. This never did work effectively, however, because it did not take into account fundamental differences in buildings or of different types of tenancy (office buildings vs. hotels, for example). Experimentation has proved, as a matter of fact, that the only fair system of ranking buildings is one which in its essence really pits each building against itself. It must be borne in mind that the ranking system has had to be a truly fair and a truly accurate one in order to keep the firing staffs steadily interested in the ratings. A period of unfair rankings or of inaccurate results would lose for the building owners the competitive spirit which this system has engendered. A system, however, which compares a building with its own past record does not penalize the janitor who has a fundamentally inefficient plant about which he can do nothing, nor on the other hand does it give a break to the lucky janitor who has new equipment. The best procedure is one which establishes a par for each plant for all types and conditions of weather. The winning janitor then is one who beats his own par by the greatest amount and the losing janitor is one who drops below the record he should achieve. The actual ranking of buildings should be done in percentages above or below par efficiency.

Basis for Recording Fuel Consumption

How are these pars to be established? They must, of course, be formed principally upon the records of each building for past heating seasons. It is essential, therefore, that there be available accurate records month by month of fuel consumption for several years in the past.

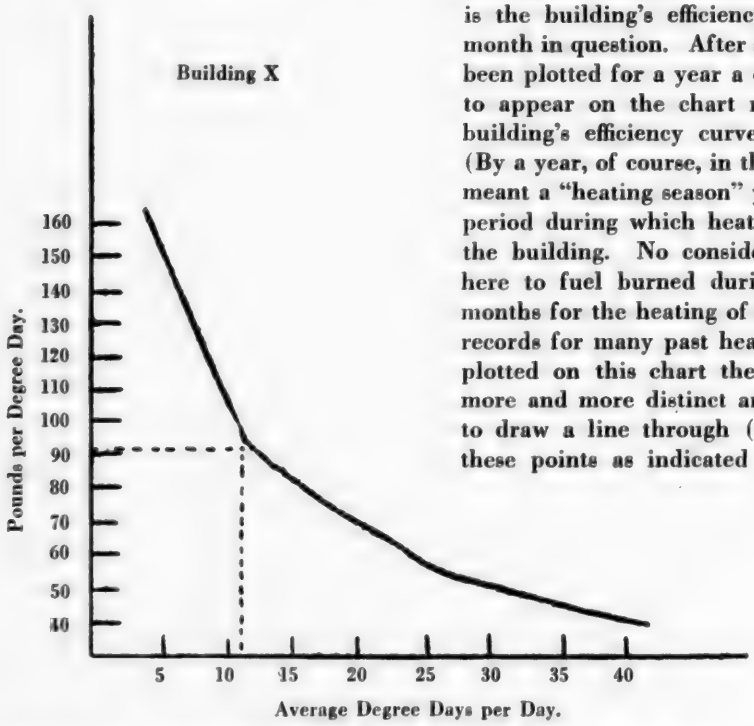
In order then to convert these consumption figures to an understandable base, it is necessary to take the record of each month's consumption in the past and divide it by the number of degree days in that month. For those who are unfamiliar with the term "degree days" an explanation of the manner in which they are figured follows.

For each twenty-four-hour day the weather bureau in each city estimates the mean temperature. This mean temperature is the average of the high and low temperature for the day. The number of degree days for that day is equivalent to the number of degrees between the mean temperature and 65 degrees. Thus, if the mean temperature were 32 degrees for today there would be 65 degrees less 32 degrees or 33 degree days. Similarly, if the mean temperature were 60 degrees today it would result in a total of 5 degree days. The number of degree days in a month is arrived at by adding the degree days for each day in the month. In order to determine the average number of degree days *per day* for that monthly period, this figure must be divided by the number of days in the month.

Charting Experience Records

Once the monthly consumption records for several past years have been converted to a record of the pounds of coal (or gallons of oil) which have been burned per degree day for that month, it is possible to construct an efficiency chart for that building. All plants, of course, operate more efficiently during cold periods than during warm weather. They are at their best when they are doing the most work. The changes in intensity of efficiency, however, are different for each building. This is seen quite

obviously in the case of a building with two boilers where it becomes necessary to cut in the second boiler when the temperature outside approximates 20 degrees Fahrenheit. When the second boiler is cut in the efficiency of the plant is not increased over that of slightly warmer temperatures that require merely the full work of one boiler alone. In another building containing two boilers it may not be necessary to cut in the second boiler until the temperature goes down to 10 degrees Fahrenheit. It is apparent that there is no possible way to compare efficiency records of these two buildings since the fundamental construction of the plants and equipment causes this leveling off period in efficiency to occur at widely varied times.



In order to find the normal efficiency pattern for each building a large chart should be constructed. The vertical side of the chart (see cut) should show the number of pounds of coal per degree day which the building has consumed. The horizontal scale should show the average number of degree days per day for the month. There then should be plotted on this chart points representing the consumption record for all past months for which data are available. This is a simple geometric problem and requires merely the drawing of two imaginary lines from each side of the chart starting at the proper place on the scale. This point when determined on the chart is the building's efficiency point for the month in question. After such points have been plotted for a year a curve will begin to appear on the chart representing the building's efficiency curve for that year. (By a year, of course, in this connection is meant a "heating season" year, that is, the period during which heat is furnished to the building. No consideration is given here to fuel burned during the summer months for the heating of hot water.) As records for many past heating seasons are plotted on this chart the curve becomes more and more distinct and it is possible to draw a line through (or adjacent to) these points as indicated by the pattern which they make that will represent the building's efficiency rating in all types of weather. This curve is indicative of the building's normal experience in the past. With a curve of this character it then be-

comes a very simple matter to rate a building against its past performance. The dotted lines in the illustration indicate a point on the curve and the readings. For this particular building it will be seen that if there were only 11 degree days per day on the average during a given month (that is, a mean temperature of 54 degrees for the month) this plant normally would burn 91 pounds of coal per degree day if it followed past experience. Assume, however, that this building's fuel report showed that it actually burned only 81 pounds of coal per degree day during the month in question as opposed to the normal consumption of 91 pounds per degree day. It will then be seen that the building was 12 per cent more efficient than its normal operation for similar situations in the past. If a curve of this kind is constructed for all of the buildings which a management organization operates then the buildings can be ranked against each other in terms of their improvements over past records. That is, after the per cent of efficiency has been computed for each building against its own curve, then the buildings can be ranked in the order of their improvement from their normal record. The rankings are then in order from plus percentages to minus percentages of improvement.

There are several precautions which should be borne in mind in connection with this experience chart however:

(1) Any substantial change in the type of fuel which the plant burns (such as a change from burning Eastern Kentucky coal to a Southern Illinois coal) would necessitate an arbitrary change in the curve. Experience has shown in changes of this kind that the curve pattern itself usually remains the same, though its location must be altered. While each individual situation of this type requires experimentation ordinarily the plant behaves about the same efficiency-wise as in the past though its actual consumption will change radically. In the case of the building illustrated on page 310 a change from Eastern Kentucky to Southern Illinois coal might mean merely moving this curve arbitrarily a quarter of an inch higher on the chart so that at an average of 11 degree days per day the building would be shown to burn 101 pounds of coal instead of 91 pounds. It should be borne in mind, of course, that any such change is purely arbitrary and future experience will necessarily govern the real location of the curve as soon as that experience becomes adequate for a determination. The arbitrary moving of the curve should be an expedient only and can be justified only in that it allows the building to remain in the competition without a new interim period of experimental data gathering;

(2) Minor changes in the plant, building, or equipment usually also can be handled by small arbitrary changes in the building's curve to accommodate the new situation. The same precaution should be observed, however, as indicated in the case of the change of fuel;

(3) Any fundamental changes in the heating plant or equipment, any substantial alterations in the building, a major insulation operation on the property, or a complete change in type of tenancy, of course, would necessitate discarding all past records and require the initiation of a new period of data gathering and experience accumulation before a chart can be drawn. A rough curve can be established after about a year's data accumulation though it usually takes three years to get a smooth curve of adequate reliability.

It must not be forgotten that wind movement, wind velocity, and humidity are also

important factors in heating efficiency and in fuel consumption; and in some cases wind direction is the most important factor of all. In order to isolate these factors it is necessary to have records of consumption figures over several years. Comparison should then be drawn between similar temperature periods and differences should be noted in fuel consumption as affected by these air movement factors.

While many buildings will be found to be affected in about the same proportions by wind and humidity, it usually will be discovered that each building develops a peculiarity at certain times. This may be the result of exposure, construction or tenancy. Typical, of course, is the building which is comparatively well protected on three sides but is badly exposed on the northeast and which is, therefore, affected in a much greater degree by a northeast wind than by wind from any other direction. A building without caulking around the window frames and without weatherstripping or storm windows, or other such protection, also will develop peculiarities in regard to wind from directions which strike its most exposed side. Buildings facing a body of water may develop similar peculiarities as will buildings having a predominance of women occupants as opposed to buildings having a predominance of men occupants. An accumulation of data, however, in these regards will allow the engineer handling the rankings to make adjustments (slightly arbitrary to be sure) in the efficiency rating of certain buildings at the time that these weather peculiarities reoccur.

Efficiency Rating System Must Be Fair

It must be kept clearly in mind that the reason for these rankings, for the accumulation of data, and for the construction of efficiency curves is to create a psychological situation in which each fireman is supervising himself. It is not only the engineer's desire to check on the operation at each building but he wishes to use the rankings as a psychological weapon to induce the heating staffs at each property to continue striving for improvement. It is clear, of course, that this ranking system is by no means perfect. Yet the management organization which originated it has now used it for many years (after experimentations with many other methods) and has found that it is considerably more satisfactory than any of the other systems presently in use for purposes of this sort. While it is not perfect, therefore, and while there are scientific gaps in its applicability, it should be borne in mind that it is not a scientific experiment but a practical management tool. It should be so used. Continued accuracy and reliability is, however, of vital importance from this same point of view.

Accurate Monthly Fuel Reports

At this point a word or two about the fuel report which each building must fill out each month would not be amiss, for the greatest opportunity for inaccuracy in the entire system arises at the point of data origination long before the supervisor starts to work with them. The illustration (see page 313) shows the type of fuel report which the superintendents send into the central office. This report requires the daily recording of the fuel used and it is to be mailed to the supervisor at the end of the month. The various reports are then checked with reports of the previous month, and the deliveries noted on the reports are checked against the office copies of the weighmaster's slips both as to dates and weights. After the starting figures have been verified the mathematics are checked, that is, the addition of the deliveries as well as the computations in the box at the bottom of the sheet.

FUEL REPORT

_____
Name of Building

_____
Type of Fuel

_____
Date Report Mailed

Covering the Month of _____ 19 ____

	FUEL USED			FUEL DELIVERED	
DATE	TEMP.	HEATING Gal. or Lb.	HOT WATER Gal. or Lb.	DEALER	Gal. or Lb.
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
TOTALS					

Dates Boiler Flues Punched _____

Dates Water Heaters Back Washed _____

Fuel on Hand Beginning of Month (Gal. or Lbs.)	_____
Plus Amount Delivered	_____
TOTAL	_____
Less Amount on Hand End of Month	_____
DIFFERENCE—Fuel Consumed	_____

SIGNED _____ *Engineer* _____ *Manager*

The techniques of recording fuel consumed, used by superintendents of different properties, vary in accordance with the type of building, the equipment, and the ability of the superintendent. Most of the techniques involving the continuous measurement of the fuel as it is burned are fairly accurate and are to be preferred. These range from putting a bicycle type speedometer on the stoker worm after carefully investigating the amount of fuel inserted by each turn of the screw, to keeping track of hoppers-full of coal, and to counting shovels-full of coal. These techniques have several advantages: they help to draw the man's attention more closely to his job; they tend to make the firemen more and more expert at accurate reporting of fuel consumption; and they have the great statistical advantage of balancing out the errors which are many and small.

The other principal type of fuel consumption accounting is that concerning the various inventory techniques. These involve adding the fuel on hand at the beginning of the period to the fuel delivered during the period, and subtracting from this amount the fuel on hand at the end of the period. The difference will give the amount consumed. There are various ways of taking this inventory, the most successful of which involves marking off the walls of the coal bin into squares and predetermining the weight of the type of the coal used per cubic foot. An inventory is then taken by smoothing the coal into a geometric pattern, that is, by flattening it out so that the top makes an inclined plane in the bin. The cubic footage of coal can then easily be determined by simple multiplication. Fuel oil is also usually figured by the inventory technique through tank readings, though a flow meter is sometimes used.

The problem of obtaining accurate figures is one that can be solved only after a period of considerable education and administrative effort. It is fundamental to the success of the entire conservation proram, however, and it is well worth the time it takes.

Similar Program Feasible for Utility Control

Record keeping, education, and the creation of a competitive spirit are also the keys to the problem of the control of utility costs and a conservation program should contemplate steps similar to those described in regard to fuel savings. Many organizations will find, however, that in the buildings which they manage utility costs are comparatively small. In the average apartment building, office building, and store building the water bills are paid by the owner, but the gas and electricity bills (except for some public space and service space lighting) are paid by the individual tenants. In some instances the gross bill is paid by the building and the electricity or gas is then resold, at a profit, to the tenants individually. In such buildings as these where the total cost of utilities is not high an expensive analysis or engineering survey is not practical and a simple control and education program should suffice.

At the start simple comparisons should be made by the supervisor between rates, equipment and total bills at similar properties. Following this a list of past expenditures should be compiled to determine the trend of operation. Occasionally it will be found that the demand rate for electricity has, with the increased use of appliances, gradually changed over a period of time to such an extent that the property has finally arrived at an inequitable electric rate although the change has been so gradual that the new position is not immediately seen.

Following this rather elementary analysis a system of constant record keeping

should be instituted which will show clearly past and current consumption figures. These should be in the form of charts containing the reading date on the bill, the present reading, the number of days covered by the bill, and the amount of the utility consumed for the period in therms, kilowatt hours, or thousands of gallons of water as the case may be. (The "demand" in the case of the electric bills also should be kept.) These charts should show a month-by-month consumption for several years back and should be accompanied by a twelve month running average to show trend.

The actual *control* of the utilities should come from education of the maintenance and engineering staffs at the properties and through the creation of a competitive interest in their work. Here again the publication of an occasional bulletin showing changes in position in regard to utility consumption has had a meritorious effect.

The management organization which instituted this program operates several buildings that furnish, included in the rent, all utilities including gas and electricity. This has presented a problem of considerable dimensions and required signed inspection reports by staff members, frequent bulletins, and an educational program involving tenant relations as well as the technical aspects of the control problem. The opportunities for savings are, however, greater in this type of property and in the cases described the results have proved to be well worth the extra cost.

Results of the Program

The results of this entire program of fuel and utility conservation have been extraordinary and of great value to the organization which originated it. The buildings which have come under the program have included hotels, apartment hotels, a hospital, a dance hall, theatres, office buildings, store buildings and apartment buildings. The largest plant burns 6000 tons of coal a year and heats a 45-story club hotel. The smallest plant burns 74 tons a year and heats a 12-flat apartment. Without exception all plants have benefited from the program. There is no building which has not improved its relative heating costs over the period of the past four years. During the last year the stoker-fired plants have saved 1,096 tons of coal as opposed to the average experience in the buildings in the past. The hand-fired plants have saved 223 tons of coal and the oil-fired plants saved several thousand gallons of oil.

There is no reason why this system of fuel and utility control cannot be equally effective when applied to the buildings managed by other organizations. The conservation plan is very simple. It involves little more record keeping than that normally done by most well operated management companies. The record-keeping technique is merely of a somewhat different type in order to arrive at bases for competitive comparisons. Some extra work would be necessary in most management companies to convert to the new type of recording. A little thought put into the writing of monthly bulletins as the principal instrument in the educational and competitive campaign is the only other requirement for initiating the program. Meetings and the distribution of prizes are important morale builders and should, however, not be neglected. The cost of these extra curricular activities can be borne, however, by member buildings, particularly if paid lecturers are invited to speak.

The institution of such a program should not result in a great deal more work or in a substantial increase in management time. It is merely a new way of doing the same old job with greater success.

Not given to "features," the Journal takes pleasure in presenting this special article by the famed Roy Wenzlick, whose comments on the all-absorbing subject of "low cost" housing will be interesting to every Journal reader.

As I See
"LOW COST" HOUSING

By *Roy Wenzlick*

GOVERNMENT slum clearance projects are often referred to by the public as "low cost" housing. This is quite unfortunate as the actual facts are that this housing in most cases is high cost housing subsidized by the Federal government to enable it to be rented below the levels of rents on privately owned comparable buildings.

Harold H. Burton headed a Senate Subcommittee in Washington recently which heard a great deal of testimony on the housing problems of Washington, D. C. This evidence points to the conclusion that construction costs of private builders are substantially lower for low rental dwellings than comparable units built under government direction. There are many reasons for these higher costs, but one of them undoubtedly is the statutory restrictions which necessitate higher wage costs on public housing. This wage rate differential reduces private housing costs from 3 to 15 per cent below public housing costs.

Even the management cost for public housing is much above the management cost of private housing. According to the testimony submitted, in 1943 the management of public housing projects in Washington averaged 13 per cent of the rents as compared to the customary management rates of private projects of 5 per cent of the rents.

While this investigation was confined to housing in Washington, D. C., we believe that the same general picture would be developed of public versus private housing in any major city of the United States.

I have always resented on behalf of the construction industry the implication that the government has found some mystic formula which enables it to build housing accommodations which can be rented for

less than those built by private industry. The private builder is thought of as using obsolete methods with great inefficiency, while government housing in the minds of the public due to the lower rents is thought to be built with the greatest economy and with a high degree of efficiency.

Just so long as people are misled into believing that builders and owners of private property are all profiteers and that the government can house them cheaper, they will clamor for government housing. If they recognize government housing for what it is, charity for the unfortunate, I still have enough confidence in the independence and moral integrity of the average American to think that he would rather pay his own way if he can.

References to public housing as charity are always resented by public housers as they do not like to have their projects referred to in this way, nor their tenants considered as wards of the government. I was quite interested, however, last month in an article which appeared in the St. Louis Post-Dispatch regarding the St. Louis Housing Authority. This statement read: "Certain clauses of the new Missouri Constitution appear to have interfered with the Housing Authority's tax exemption, and Attorney Kaveney has taken to the Legislature a bill to overcome this, through designating the authority as a charity." Thus, through the force of necessity, public housing in St. Louis asks to be designated as "charity," a title which all public housing should bear.

Frank Lloyd Wright, the famous architect, was asked at a public meeting if he would care to discuss the housing problem. He is reported to have replied, "Housing is no problem except to the government." Like most statements of this sort it, of course, over-simplifies the situation. There are undoubtedly many housing problems, the principal one of which is how to reduce building cost to the point where housing accommodations can be built for an amount within the reach of a larger percentage of our population.

But, on the other hand, Frank Lloyd Wright was correct in stating that housing is no problem except to the government. Public housers would solve the problem by subsidized slum clearance at a time when our Federal debt already exceeds $6500 per family. When Federal expenditures have been so high that every family with more than $600 worth of annual income is required to file an income tax return, it is no solution to reduce rents by increasing taxes.

The purely physical aspects of inner city redevelopment do not present difficult problems for the architect, engineer, contractor or public planner. The basic problems which cause the difficulty are all economic in nature.

Many existing buildings could be modernized, provided the present tenants or similar tenants could afford to pay a rent which would support the increased capital expenditure.

It is recognized by all thoughtful persons, especially by those engaged in the real estate business, that only a very small part of the population of any metropolitan city can afford on their own earnings to live in new and modern housing. In the fifteen largest cities of the United States the typical rents paid by all tenants in 1940 would clearly prove this to be true. One-sixth of these tenants paid less than $16.50 per month in rent; one third paid less than $23; one-half paid less than $29.50; two-thirds paid less than $35.50; and five-sixths paid less than $45. Out of the 195 largest cities in the United States, in 61 two-thirds of all tenants were paying $25 a month or less in rent.

I do not see the necessity of providing new housing for all families in our population. A house when built lasts more than forty years and unless loans are to be amortized in a relatively short period someone must continue to occupy buildings which are no longer new but which still have considerable economic value. We believe that the logical solution to the housing problem is to build new units for those who can afford to pay an economic rent. As these housing units become older and less desirable the original owner or tenant moves to more modern and better located properties, leaving the older properties to be occupied by those who cannot pay a sufficient rental for new buildings. In this way new housing accommodations come into the field at or near the top and pass out through total obsolescence and depreciation at the lower end of the scale.

We believe that a very strict enforcement of the police powers of the city could hasten this process and could prevent the use of totally dilapidated, unsafe and unsanitary housing. If this power were rigidly used it would probably speed up obsolescence, it would shorten the expected life of the new building and would necessitate larger amortization payments on the loan in the early life of the building. This would prevent old and obsolete buildings from getting to the point where they were no longer economically useful while they still carried loans too heavy for the type of tenantry available to them.

An attempt to furnish new housing to the lowest economic levels of our population while the great majority of our self-supporting citizens continue to live in old housing presents some peculiar contradictions. We made a study of housing conditions in one New England city during the past year which illustrates this. Some subsidized public housing had been completed in this city at just about the time that the defense program got into high gear and this housing was needed for defense workers. It was rented, therefore, at a rate more nearly in line with economic rentals than had been anticipated in the original set-up for a subsidized project. Because of the rent regulations of the OPA it was necessary to have the rent control administrator inspect the properties and place a maximum rent ceiling on the units on exactly the same basis as if this housing had been built by private builders for private ownership. In the case of a new building which has never been rented before the price ceilings fixed by the OPA are supposed to be arrived at by a comparison with the frozen rentals on comparable existing units. The rent ceilings set on these units, which were originally intended to be rented to the unskilled and the inefficient members of society who could not afford to pay for adequate housing, were above the level being paid by the skilled and efficient workers in this city who were paying their own way. On the two and a half room units the maximum rental set by the OPA was higher than 66 per cent of all tenants in that city were paying, and this included heat, water, gas and electricity; and the rental set on the six-room units was higher than 90 per cent of all tenants in that city were paying.

The housing authority of that city did not rent these units at the OPA ceiling, but this is entirely beside the point. Apparently a disinterested government group studying this housing from the standpoint of comparability to existing housing graded it in this way.

I think it is neither good business nor sound economics for the Federal government to provide socialized housing at public expense for the unskilled and the inefficient, which is better in quality than the great majority of skilled and efficient workers is able to afford.

There is a large group in every city which is practically without income, and this group must be taken care of on a charity basis. Private industry naturally cannot afford to provide housing for this group and if subsidized units must be provided they should logically be provided

for those most in need. This group, however, is generally eliminated in tenant selection from a government housing project. One of the reasons why the "before" and "after" studies in slum districts show a decrease in juvenile delinquency, in disease rates and in other factors is that the same people are not rehoused. In fact, the housing authority of one community stated in one of its annual reports that "the diffusion of the less desirables is a beneficial thing."

I realize that I am not offering a panacea for the blighted area problem of our larger cities. Only the very young and the uninformed expect panaceas to solve deep-rooted conditions which have continued for generations in the past.

In my opinion, during the next twenty-five years land values for residential use in all American cities will undergo a great degree of deflation due to the fact that close-in land available for building no longer has the scarcity value which it had prior to the days of the automobile and rapid transportation. So much land is now available for development that there can be no conceivable possibility of utilizing more than a fraction of it in any reasonable period in the future. To attempt to assemble the blighted areas of our larger cities at the present time at the prevailing, but false, opinions of the value of this land would be to place an unnecessary interest burden on the future. I believe that the sounder but less dramatic method proposed here of a strict enforcement of police power and of building for those who can afford to live in new houses will, in the long run, produce sounder results and will eventually enable blighted areas to be redeveloped on an economic basis.

Reprinted by courtesy of Roy Wenzlick
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YOUR OFFICE IS IMPORTANT

By *F. B. Martin, CPM*

In the period immediately ahead, property managers must attract the attention of their communities so as to capitalize on the management potentials of the thousands of buildings soon to be built. One focal point of such attention is the management office.

THE property management profession today has come a long way from the bulging-pocket "rent man and collector" of not so many years ago, the man whose desk always seemed to be in an obscure part of the real estate office, piled high with papers and memos. Now these same real estate offices boast a highly efficient, businesslike and profitable property management department.

Our office was no exception ten or fifteen years ago. Our management department was a one-man affair, and most of the office employees resented having to drop their own work to write a letter or two for the "rent man." In those days the revenue from rentals and property management wasn't anything to brag about, and that work was shifted about.

As we all know, out of that background have blossomed and bloomed, throughout the country, sound, scientific property management departments, and each one of us has his own opinion of the reason, or reasons, for this development. We, in our office, believe very sincerely that nothing succeeds like success, and that the attractiveness and strategic locations of our two offices have played a very important part in the prominence and pecuniary success our property management department has attained.

Location and Appearance

Our company has been in business since 1892, and up until the past few years its location did not seem to be an important factor. Now, because we look upon property management as a profession, we find it is mandatory that a real estate office be well located in order to secure the right kind of management accounts.

We do not deny the fact that a good property management department requires skilled and trained personnel equipped with keen judgment and accumulated experience. However, we believe that in addition to a capable staff, the physical appearance of the management department will contribute the most toward its success. An office should appear attractive and friendly, and should be located in a neighborhood that is before the public constantly and close to other financial institutions. Since management is a serious vocation, an atmosphere similar to a highly reputable law office or financial institution should be maintained. An outstanding office does for the real estate firm that very intangible but unmistakeable something which a woman asserts a new hat does for her. Contrary to some schools of thought on this belief, John Q. Public will always agree that "fine feathers make fine birds."

Our Downtown Office

Because we believe so strongly in location, we recently closed one of our offices which was situated in a beautiful, impressive corner building in a well-established business section, when the trend of the

Plate 1
Exterior view of building before remodeling by the Carl G. Stifel Realty Co. in downtown St. Louis.

Plate 2
Exterior view of building after remodeling.

Plate 3
Interior view of Stifel office looking toward back of office.

neighborhood was deteriorating. Although we owned this building, the interior of which was resplendent in marble and mahogany and appeared impressive as well as dignified, we preferred to rent space in a more alive section.

The office we opened is in a 100 per cent downtown business section. It has received city-wide comment, first, because of the pioneering aspect of the location in the building, and second, because of its attractive and unique appearance. It is on the first floor in the very midriff of the financial and shopping district of downtown St. Louis, the only real estate office on the ground floor in this hubbub of activity. It is situated between the two most widely traversed streets in St. Louis. Thousands of persons of necessity pass our window daily thereby giving our firm unlimited and priceless publicity.

We believe that the real estate office should reflect an attractive home atmosphere. This is not always practical when the office is located on a busy downtown street, but it can and must be arranged to create an impression of superior management and maintenance. Certainly if we are trying to impress clients with our skill as property managers, there should be a subtle reflection of what we are capable of doing apparent in our own offices.

Old Exterior Remodelled

Our downtown office, although it is quite spacious and in an older building with high ceilings, invites hundreds of passers-by inside because of its outward appearance. To obtain this desirable effect, we tore out the front of the building (See before and after pictures, Plates 1 and 2) and installed a white Colonial facade with crossed panes of glass and a Colonial, brick-colored doorway. The view from the street shows what might be the living room of a smart, swanky, charming home. One sees beige draperies which are trimmed with a red border to match the red seal of the *Stifel* trademark in the sign overhead. Two white pedestals holding attractive placards face the street so that they can be read by pedestrians who pass the window. These hand-lettered posters which are changed every other week announce the various facilities of our property management department.

Upon entering the office, one steps into the reception room. It is furnished with a soft green carpet. The draperies mentioned above, on the inside, are green and beige toile installed with traverse cords so that they may be pulled across the entire window if privacy is desired. This room contains custom-made furniture including a Lawson sofa, two English chairs, and a modern French chair, all of which are upholstered in beautiful, richly-colored fabrics. At each side of the sofa is an end table and lamp. On the walls are hung striking photographs of beautiful views in one of our subdivisions. The room is charming and comfortable, and as far as we know there is nothing comparable anywhere in St. Louis.

A specially designed and constructed railing and counter separates the reception room from the office proper, where salesmen, secretarial staff and officers have their desks. (See Plate 3). A passageway between a private office on one side and a directors' and closing room on the other, leads to the ladies' lounge and rest rooms. Behind these are the supply rooms and files. A pine-finished room in the basement is used for additional storage space. The office is equipped with fluorescent lighting. The floor is covered with asphalt tile. Parking is available to clients and office personnel in a parking lot located only two blocks from the office.

Our Suburban Office

The location of our other office is outside the city limits of St. Louis in the suburb of University City. Although this suburb is usually considered the western part of St. Louis it alone has a population of 35,000. Our office is in the heart of a thriving business district and yet is easily accessible to the most exclusive residential section of the county. It is located on the first floor of a corner four-story building. It has 72 feet of window space, which provides light and enables the passing public to see our office staff at work. The same type of pedestal set in our downtown window is used here to display posters which describe our various services. The office interior is attractive, but not unusual. Desks and furniture are walnut; partitions and permanent fixtures, walnut and marble. The walls are Caribbean blue; the ceilings bone white. Our office is always clean and well maintained.

Aid to Business

Perhaps we over-estimate the importance of a property management office, but we feel that pride in its appearance and the manner in which it is operated and maintained on the part of the personnel will contribute toward successful operation. Like most property managers, we have had some interesting experiences, and certainly have learned that sound management and constant supervision will result in dividends to owners of properties. We are convinced that we must sell our services and experiences to owners, in order not to find ourselves doing major alterations and delayed repairs and maintenance as in the days of the early Thirties. There is no reason why a property manager should not contact some new owner daily and impress upon him the advantages of professional management. A good "front" helps in the selling job. We believe a management office should be as modern as its services.

MAINTENANCE EXCHANGE

By *Richard Lawrence Nelson, CPM, MAI,*
EDITOR

Letters of Inquiry,
Comments by Readers,
Notes by the Editor

Plastic Paint

Just when the American public has begun to discover that vitamins are not the magic cure for all its physical ills, there has appeared on the market a new phenomenal product, "plastic." With articles labeled "plastic" the public expects to solve all maintenance, labor, and manufacturing problems in the postwar world. Soon, we are told, everything will be done with plastics; household appliances made with them will be cheaper; plastic surfaces will be permanent; and maintenance of plastic articles will be simple. We expect plastic automobiles, kitchens, houses and even clothing. "Plastic" is already a wonder word which has acquired a selling power that is almost unbelievable. Advertisers have been quick to realize its value and have renamed old products liberally to take advantage of its merchandising appeal.

The paint business was among the first to go "plastic," and today all but a few of the most reputable companies have several "plastic paints" in their lines. This use of the word "plastic" in connection with a paint product is, of course, highly misleading, if not fraudulent. It is used because the public jumps to the conclusion that a "plastic paint" must be far superior in service and quality than "regular" paint. There is, of course, no substance now available which can be applied in the same manner as paint and which will leave a coating of plastic on the treated surface. Yet this is the picture which the word leaves in the mind of the average consumer. None of the plastic paints which we have examined or seen in use have had unusual characteristics. Whereas, in most instances, they have been sold through claims of unusual protective and performance qualities at prices greatly in excess of regular paints, in general they are no better than the medium-priced paint products which have been on sale for many years.

Investigation by Better Business Bureau

Because so many complaints in regard to plastic paint have originated in Chicago, the Chicago Better Business Bureau made a special study of those presently being offered for sale. The following are excerpts quoted from its report on the subject:

> "The term 'plastic paint' appears to be loosely used by some of the trade at present to cover practically any type of paint. It is not limited to paints containing any materials which might justify use of the word 'plastic.'
>
> "So-called 'plastic paint' may be either of good or poor quality according to the paint formula. If the ingredients are of low quality, the inclusion of synthetic resinous additives still leaves the paint poor in quality.
>
> "All of the authorities stated at the present time they know of no resinous or other substance now being used in so-called 'plastic paint' that justifies any

unusual claims regarding its length of life as outside house paint. They said that a satisfactory and lasting paint job depends for the most part on the condition of the surface on which it is applied; the quality of the paint, that is, the formula; weather conditions; and, of course, the ability of the applicators.

"Complainants have advised the Bureau that so-called 'plastic paint' is often described as moisture proof; that it will not crack, chip or peel; that it is equivalent to five or more coats of ordinary paints, since it covers all cracks and imperfections.

"Actually a number of tests and comparisons of so-called 'plastic paint' with 'regular' paint for both outside and inside walls, conducted by the National Paint, Varnish and Lacquer Association, and reported in its Circular No. 701, issued January, 1945, failed to disclose any superlative characteristics for such 'plastic paint.' In fact, its conclusions, in many instances, indicated that moderately priced 'regular' paint was superior in quality.

"In a test of pigmented floor enamels, one 'regular' and two 'plastic' enamels were tested with the following results:

> "'The "regular" floor enamel was superior to the "plastic" enamels. The latter was brittle and failed badly in cold water, becoming dull, spotted and weak.'

"In another test of red floor enamels, one 'regular' and one 'plastic' were treated with the following results:

> "'The "regular" floor enamel was greatly superior to the "plastic." The "plastic" enamel was very brittle and failed in cold water, acid, alkali and alcohol tests.'

"In another test of white house paint, a sample of 'regular' was compared in composition with two brands of 'plastics.' They were found to be very similar in content of white pigment, character of pigments, oil binder, and of volatile thinner. The cost per gallon of ingredients in each paint was within a few pennies of the same figure. No unusual materials, such as phenolic resins, alkyds, or other synthetics were present. Their estimated service was equal. Another 'plastic' sample was found inferior in quality and much lower in cost of raw materials.

"Some producers of so-called 'plastic paint' base their claims of performance on the fact their product contains alkyds, phenolics or other synthetic resins. However, it is possible for a product to contain such resins in larger or smaller amounts and still not be plastic, as that term is generally understood by the public.

"During the war the pheonolics, alkyds and other synthetic resins have been under strict allocation and their use has been limited to military requirements and a few civilian finishes of the highest degree of essentiality; they have not been, and are not available for paint products for general consumption.

"If such materials were readily available there would still remain the question whether paints containing them in varying quantities produced the results which the public may expect, either because of its familiarity with the original meaning of the word 'plastic' or its possibly greater familiarity with modern *molded plastic* articles."

L-41 Liberalized

The War Production Board again has liberalized the L-41 order limiting new construction—this time considerably. The new allowances are as follows:

One-family structures	$1,000
Two-family structures	2,000
Three-family structures	3,000
Four-family structures	4,000
Five-family dwellings and over	5,000
Office buildings, hotels, store buildings, warehouses and banks	5,000
Churches, hospitals and schools	10,000
Industrial establishments	25,000

These new construction limits are for the current calendar year and are retroactive to January 1.

The allowances are now of sufficient dimension to permit adequate alteration for most properties. Major remodeling or modernization is still not possible, of course, and many large office buildings will find the $5,000 allowance inadequate.

A new feature of the revised L-41 order is the ceiling placed on "maintenance and repairs" which limits the amount of annual expenditure to twenty cents a square foot of gross area. The definition of maintenance and repairs as opposed to structural changes or alterations remains the same. This new limitation, like that on alterations, is retroactive to January 1 and is for this calendar year. Applications may in special circumstances, however, be made for an increased allowance.

A property on which more than its repair allowance of twenty cents a square foot had been spent before May 29 will not be penalized but further repair money will not be granted this year. A building on which only part of its allowance had been spent previous to May 29 will be granted the balance for expenditures during the remainder of 1945. In the event that work on a building had begun before May 29, which brought the cost of repairs over twenty cents, the work may be completed without penalty but no further allowance will be available until next year.

WHAT TO READ

By *C. M. Jones*, EDITOR

Pertinent Comments on Books, Recent Surveys, and Articles of Interest to Property Managers

Book Reviews

HOME OWNERSHIP: *Is It Sound?* by JOHN P. DEAN. Harper, N. Y. [c1945].

Probably more loose talk and fewer facts have appeared in discussions of home ownership than have characterized all the other controversial fields of housing and planning put together. This study attempts to get at such available facts as there are. Dr. Dean's book is the first on the subject to "take the gloves off" in approaching the problem. It is to be hoped that couples desiring to own homes will be aided by this book in understanding what is involved in home ownership for American families. Most buyers are unaware of the risks. There is a sharp warning to families which may have been too generously encouraged to "own their own home." In a hard-hitting analysis of home buying and selling, Dr. Dean shows how the American faith in home ownership has been ruthlessly exploited in order to sell houses. This is the first well thought-out study of the way home ownership promotional efforts now work. It is required reading for builders, Realtors, mortgage lenders and all others who want to see safe and sound home ownership.

FIRST AID FOR THE AILING HOUSE, by ROGER B. WHITMAN. 3d revised edition. Whittlesey House, McGraw-Hill Book Co., N. Y. [c1942].

Since its first edition in 1934, this has been recognized as the standard authoritative book on how to keep a house in good condition. It contains detailed suggestions, sketches and plans based on Mr. Whitman's answers to questions received from home owners writing to his widely syndicated column in the *New York Sun*. The third edition includes much information on substitutes for materials now on the priority lists and no longer available to the home owner. There are also instructions for lengthening the life of parts of houses subject to wear, particularly those made of sheet metal—gutters, flashings, and the more vulnerable parts of plumbing and heating systems. Mr. Whitman also makes suggestions for conserving materials—paints, other finishes, and paint brushes. In view of the many limitations that have fallen on home owners as the result of war conditions, this book should go far to conserve the life of houses and household possessions.

A MILLION HOMES A YEAR, by DOROTHY ROSENMAN. Harcourt, Brace, N. Y. [c1945].

Dorothy Rosenman, Chairman of the National Committee on Housing, Inc., and wife of Judge Samuel I. Rosenman, advisor to the late President Roosevelt, has touched on practically all of the problems facing the housing industry and our legislatures in their attempt to improve housing for the low-income and no-income groups. Although there is no effort made to solve the problems, an amazing amount

of research has been done by Mrs. Rosenman and her committee, and the trends and difficulties are fully indicated.

She has made no startling new contributions to the already large body of proposals for dealing with the problem of more and better house-building. Her intention has been to clarify and synthesize recommendations for action which have already won wide acceptance. Her proposals (yield insurance, subdivision control, taxation on use value, and improved techniques for urban land assembly) do not differ greatly from recommendations published last year by the Twentieth Century Fund's housing committee, but they are somewhat less broad in scope. Thus, while she echoes the Fund Committee's interest in stimulating investment in rental housing, she does not seem to share that group's grasp of the basic faults of home finance or its willingness to look for new ways of tapping building money.

There will be little controversy about her conclusion that "there is no one (housing) cost factor capable of sufficient reduction to revolutionize total production costs," and there will be no exception taken to the secondary conclusion that "cost of distribution of materials and parts" is the only single factor offering "promise of drastic reduction." Her energy and enterprise might have been devoted more profitably to obtaining new facts about the distribution cost factor than to a rehearsal of cost data already documented and distributed by the National Housing Agency and others.

Although you may wish that Mrs. Rosenman used fewer metaphors and similes, the book may reach its major importance as a means of alerting the nonprofessional reader to the real nature of housing and planning problems paramount in everyone's welfare. She has clearly distinguished between the problem of supplying low-cost housing and the anything-but-synonymous problem of urban redevelopment.

Mrs. Rosenman does not hesitate to point out the errors of the public housing program. She thinks that local housing authorities should have paid more attention to setting forth the facts about the program "for public scrutiny, comment and refutation." They should exercise local leadership in stimulating private production in the low-cost field. "Public housing should never be pitted against private housing, but should be clearly presented as a supplement to it."

Article Reviews

APARTMENT COURT LIVING VS. APARTMENT HOUSE LIVING, by ESTHER HUTTER.

In this interesting and rather cleverly written article, Esther Hutter, Manager of Lafayette Gardens, located in Los Angeles, compares the advantages and disadvantages of living in an apartment court, with those of living in the usual apartment house. She finds many disadvantages in the apartment court, particularly from the manager's standpoint, but comes to the conclusion that she still prefers it to an apartment house. She lists, as one of the major advantages, that it is more like living in a home of one's own. The apartments in a court provide greater privacy, with more ventilation and daylight. They usually have private entrances, and often at least one bedroom, rather than the regulation pull-out beds. There is a more pleasant outlook from the windows, with the distinct advantage of a lawn, flowers and shrubbery. From the manager's viewpoint, the advantages are many. They include: no phone service supplied by the management; fewer small service requirements, such as

mail and deliveries; and no maid service for unfurnished units.

The opposite side of the picture shows many advantages for the apartment house manager: the units of an apartment house are more easily heated; there are fewer windows; the hot water system costs less to install and maintain; grounds are less extensive and costly to maintain; and the help problem is simpler. *The Apartment Journal* (Los Angeles), June, 1945, pp. 10, 14.

MODERNIZING AN OLD BUILDING RESULTS IN EXCELLENT TENANCY.

This is a brief two-page article, showing in its many accompanying photographs what can be accomplished with an old building, when an enterprising management company sees its possibilities and sets to work to make the property presentable to future prospects. The building referred to is one of Chicago's oldest, built in 1903, located at 226 West Jackson Boulevard. After a vacancy of 13 years, Arthur Rubloff and Company undertook its renovation and modernization, with the happy result of renting it to a well-satisfied tenant. *Skyscraper Management*, April, 1945, pp. 6-7.

GOOD MAINTENANCE MEANS SAFE ELEVATORS, by FLOYD T. FRAZIER.

Anything which tends to spread mistrust of elevators is a real threat to tall buildings. In this report, the author reviews the records of the National Safety Council and other organizations concerned with elevator maintenance and safety, and outlines procedures designed to keep elevators safe. It is an excellent and exhaustive report, noting in detail everything to be included in the regular inspection of elevators. The article contains two fine charts—a monthly report and a suggested maintenance schedule. *Buildings and Building Management*, April, 1945, pp. 51-55; May, 1945, pp. 52-54.

IDEAS THAT ARE WORKING FOR PROPERTY MANAGERS

Here are new ideas which CPMs may wish to adopt.

Marshall W. Taggart who specializes in the management of hotels, apartment buildings, office buildings, and business properties, has developed a method of handling property management, which he finds eliminates a great amount of bookkeeping. During a current month his company pays all operating costs, and deposits all rentals in a bank, subject only to the owner's withdrawal. A deposit slip is sent to the owner, and a duplicate retained for the Taggart file. At the end of the month the company renders the owner a statement, together with receipted bills for each expenditure, plus the 5 per cent management fee computed on the monthly deposits. This statement is due by the tenth of the following month. It seems like a concise, business-like way of handling property management.

Raab & Co., of Richmond, Virginia, accumulates the expiration dates of valuable business properties throughout the South. Owners of these properties are contacted by letters, personal calls and long distance phone calls.

Paul Pancake of Huntington, West Virginia, is paying his salesmen as much for listings as for sales.

Robert B. Lucas, of Fremont, Ohio, reports that in 1944 he added four salesmen to his force. Their contract gave them 25 per cent of the gross commission for making the listing, and 25 per cent for completing the sale. As a result of this practice gross commissions received by the company for the first three months in 1945 are ten times those received for the same period last year. *National Real Estate and Building Journal*, May 1945, p. 37.

The Research Committee Reports

By *Richard Lawrence Nelson, CPM, MAI*, Chairman

Light Bulb Tests

There has been considerable feeling among property managers that a noticeable deterioration in the quality of light bulbs has developed since the beginning of the war. Most complaints have stressed the fact that lamps are now burning out with a great deal more rapidity than in the past. Many managers state that they are replacing bulbs oftener than ever before and that they frequently encounter instances in which a bulb has burned out after only a very few hours of use.

The Research Committee of the Institute has held several conferences in regard to this problem with manufacturers and their representatives. On the whole the manufacturers' contention is that lamp life is no different now than before the war. They admit that there has been some lessening in quality through the lack of certain vital materials. However, they state that this has affected light output and not durability, their general contention being that the life of a bulb is predetermined in its manufacture and that light output is the only variable factor. When confronted with the empirical proof that we in the property management business are actually replacing bulbs oftener than ever before, the manufacturers say that the electric companies are stepping up voltage without our knowing it. By this they do not mean a step-up in the official published voltage, but rather that the voltage is now much more constant than it has been before. There is perhaps some merit to this argument as the length of life of a bulb can be increased or decreased in almost a geometric proportion by increasing or decreasing the voltage which it receives. Of course, light output also varies in the same proportion. Voltage tests taken on panel boards in sample buildings have shown in Chicago, where the voltage is said to be 120, variations ranging from 112 to 119 over a twenty-four hour period. It is true that if the Commonwealth Edison Company of Chicago has increased the average voltage at a sample property from 117 to 118, the length of life of bulbs used in that property will be lessened slightly even though standard 120 volt lamps are used.

This matter of voltage changes, however, is a difficult one to determine, as most electric companies are reluctant to admit that voltage outputs have ever varied greatly or have fallen below the published rates. They maintain that the great new industrial loads, however, have not made it any easier for them to keep voltages constant.

Life of 640 Lamps Recorded

Because, over a period of time, lamps represent a considerable investment in the average property, and because there is an apparent lessening in their life in recent years, the newly formed Research Committee of the Institute has embarked upon some extended tests of bulbs of different manu-

facture and wattage. The slight disagreement between lamp makers and electric producers has increased our determination to find out what we can for ourselves. To this end the Research Committee is presently testing 640 lamps as to length of life. These tests are being conducted under normal burning conditions. That is, bulbs have been installed in positions in which they will receive the normal amount of vibration, temperature change, and voltage. Each lamp has been carefully marked as to the time of its installation and is to be left burning constantly until it is burnt out, at which time the total life in hours will be recorded immediately. The sample of 640 bulbs includes lamps manufactured by the following companies: General Electric; Westinghouse; Sylvania; Champion; and Solar. Lamps being tested include those of 15, 25, 40, 60, 75 and 100 watts. All lamps are being purchased from standard sources to reduce the possibility of getting an unusual sample in any regard.

Whereas the original sample contemplates a test of 640 bulbs, the Research Committee has felt that it may wish to prolong the test and may, therefore, make it continuous over a considerable period of time in order to increase the number of correlations possible and to measure such effects as vibration and burning position upon the lasting qualities of the lamps. All burnt-out lamps during the test will be subjected to a careful physical examination, and tabulations will be made of the apparent reasons for collapse. The amount of darkening, and other physical defects will be recorded, as well as the average length of life of bulbs of different makes and wattages.

A preliminary report on this test will be available for publication in the next issue of *The Journal of Property Management*, and this column will contain current findings.

Electricity Consumption Tests Contemplated

It is true, of course, that lasting quality is only one of the aspects of interest to a lamp purchaser. When a bulb is bought and installed the buyer is purchasing a certain amount of light output for a cost. This cost is made up of three items: (1) the amount of electricity which the lamp uses; (2) the original cost of the lamp; and (3) the life of the lamp.

The present test involves only Number 3. Number 2 is, of course, a matter for individual investigation by each purchaser in his community. The Research Committee plans to conduct tests involving Number 1 (the consumption of electricity by each type of lamp) as well. It also will initiate, before long, tests regarding the light output of the various makes and wattages of bulbs over their lifetime.

When these latter tests are coordinated with the "life" tests now in progress a truly comprehensive picture of lamp values will be available.

Coal Analyses

At this time of the year many management organizations sign new coal contracts. Before doing so it is advisable to check the quality of fuel which has been received. To aid you, the Institute's Research Committee announced, on May 3, 1945, that proximate analyses of delivered fuel can be made through the Committee at a cost of $5.70 each. If you wish such an analysis and desire additional detailed information in regard to prices, analysis technique, or sample preparation, please address the Editor of this column.

News of the Chapters

Tulsa

The Tulsa Chapter has had two quarterly meetings since January. For the first, our program chairman invited one of Tulsa's outstanding engineers to lead a question-and-answer round-table discussion on heating and air conditioning. The second meeting held in June, was conducted by Ben Kirkpatrick, who made a report on the May Governing Council meeting in Chicago.

The chapter is making a survey of probable candidates for the management school in Texas this fall. We are writing to one or two key men in each of our smaller cities and have a group working in Oklahoma City to interest the various members of the Oklahoma City Board in membership in the Institute and in attendance at Institute schools.

The Tulsa Chapter is currently running an ad 1 x 3 in the local papers (that is as much space as the newspapers will allow at this time) pointing out to property owners and the public the value of trained property management. These advertisements are appearing at regular dates in the Sunday papers. The name of each CPM is included in the copy and each ad is charged, in rotation, to the various members of the chapter.

We have had printed a brochure containing the code of ethics of the Institute and other data pertinent to property management, as well as names of the members of the chapter. These brochures are printed in a size to fit in a 3 x 5 envelope and are being mailed to property owners and other groups interested in the management of property. We are also revising the Board rates of commission pertaining to property management, and are standardizing the property management fees charged by our group. We would be pleased to hear from other local chapters concerning management fees that are being charged in their communities in order to compare our fees with theirs.

Our chapter is arranging to invite prospective members from over the state to meet President Delbert S. Wenzlick when he is here this fall. This is for the purpose of promoting the Institute, its programs and educational activities throughout the state, and building a wider knowledge of the Institute locally, not only among members of the Tulsa Board but also among property owners, banks, local courts and trust companies.

R. B. Collins, *President*
June 27, 1945

Cincinnati

During the past few months the Cincinnati Chapter of the Institute of Real Estate Management has been following the action of various City Councils as well as the State of Ohio bills. Our secretary, Mr. Harry Mohlman, keeps us informed about the various bills proposed in Columbus, Ohio, which pertain directly or indirectly to our business. Such a bill, and one which we do not favor is, Bill 318—Metcalfe's, which proposes to license all building contractors in the state of Ohio.

Several months ago an ordinance was submitted to our City Council compelling all property owners to rent to families with children, without discrimination. The city courts were empowered to impose a $25 fine upon the property owners if they refused to cooperate. Our Institute was well represented in the hearing, and we feel that it was because of our testimony that this vicious ordinance was never passed.

At the present time, the Board of Public Health of Cincinnati has prepared a rat-proofing ordinance compelling all property owners of the city to make, by January 1, 1946, the changes in their property necessary to comply with this ordinance. We are studying the ordinance to determine what will be the best and most economical way to meet its requirements. During our discussion it was reported that there is a new rentable rat trap which works on an electric eye principle. It is manufactured by an eastern concern known as the Electric Rat Trap Company, and has been doing a remarkable job wherever used.

Public housing has been discussed pro and con on several occasions and the activity of the government in this matter is being closely followed.

We have had under discussion, during several meetings, the advisability of a uniform operating statement which could be submitted to prospective purchasers of investment as well as industrial property. A special committee has been appointed to prepare such a statement. It will submit a proposed form for consideration at our next monthy meeting.

Mr. Ellsworth Ireland gave a lengthy report on the May meeting of the Governing Council at which the Institute's proposed revised By-laws were discussed. His report was well received by the entire chapter.

Julius J. Heidacher, *President*
June 27, 1945

Los Angeles

We have dinner meetings of the chapter at the University Club, usually on the second Tuesday of each month, and at these meetings we often feature some currently considered public enterprise. For instance, at the April meeting we had as our guests, one of the Commissioners, two of the Right-of-Way Agents, and the engineer of the State Highway Commission, who gave us a lecture, illustrated with moving pictures, setting forth the complete plans, and construction data of the proposed Freeways entering Los Angeles, as well as those in operation in and around New York City and other states.

Our May meeting was devoted to President Delbert S. Wenzlick's visit and a report from him on his plans for the Institute.

June featured our proposed new Opera House and Municipal Auditorium. This program was put on for us by the executive secretary and general manager of the Downtown Business Men's Association and his assistants.

In addition to the above, we frequently assign to one or two members of the chapter the preparation of a review of one or more of the articles in the last issue of the *Journal*. These reviews are carefully prepared and presented at the meeting by the members to whom they are assigned and usually are followed by lively round-table discussion.

We have a splendid chapter, comprising over thirty members, many of whom are the outstanding men in the real estate field in southern California and we are, through careful selection, slowly adding to this membership.

HAROLD K. HUNTSBERGER, *President*
June 25, 1945

Pittsburgh

The Pittsburgh Chapter of the Institute of Real Estate Management inaugurated a plan to hold two-part monthly meetings: the first part for the conduct of the usual business of the chapter; and the second part, immediately following, for a discussion of a particular subject which has been assigned to one of our fellow CPMs who talks for one half of the hour period, leaving the balance of the time open for questions and answers.

The first of these two-part meetings was dispensed with as the president of the Institute, Mr. Delbert S. Wenzlick, paid our chapter a four-day visit from February seventeenth through the twentieth, at which time he talked with all chapter members in their respective offices. Our monthly meeting was turned over to Mr. Wenzlick, following a luncheon and the regular business discussion. This was one of the finest meetings our chapter has had and it consumed the entire afternoon.

The local chapter, in cooperation with the Pittsburgh Real Estate Board, sponsored the Institute's management lecture course which was successfully conducted by James C. Downs, Jr., and Delbert S. Wenzlick, assisted by four guest lecturers from Pittsburgh. This course was held from June eleventh through the sixteenth and was attended by forty-two students, about half of whom were from the Pittsburgh district and the balance of whom came from as far north as Canada, as far south as Miami, Florida, and from the Middle West to and including the New England states.

The local chapter has suspended all further planned activities until September at which time our two-point monthly meetings will be resumed.

HARRY E. POPLE, *President*
June 26, 1945

Milwaukee

The Milwaukee Chapter was presented with its charter on June 19, 1945, by Mr. Kendall Cady of Chicago.

As president of the local chapter so recently organized I am glad to submit the following three objectives which we are going to attempt to carry out in our chapter:

1. To continue an active educational program in our local chapter in order to better qualify all CPMs to render a professional service to their clients;
2. To compile all local, state and national information necessary to aid our members in fulfilling, in a professional way, their responsibility to their clients;
3. To inform property owners and the public, in general, about the services which are available to them through the chapter members who have qualified themselves, and are in a position to render a professional property management service to their clients.

GLEN A. WILSON, *President*
June 25, 1945

Nebraska–Iowa

The Nebraska-Iowa Chapter of the Institute completed its organization in April of this year and as yet its activities have been limited to getting acquainted with one another and planning for our future.

Enthusiasm has been high and we are all agreed that our organization will be a real foundation to promote the professionalism of our work.

In spite of great distances between our members, our meetings have been well attended. The CPMs of Council Bluffs, Iowa, will be hosts at our July meeting. Plans are under way for a formal charter presentation in the early fall.

HARLAN G. EASTON, *President*
June 26, 1945

DO *you know the economics of real estate*

ARE *you able to determine when to operate furnished apartments*

CAN *you make up a budget for operations and be sure you are correct*

?

HAVE *you accounting problems*

SHOULD *you learn more about taxes and insurance*

WOULD *you be interested in advertising devices that will produce new business*

Then . . .

ENROLL in the one-week lecture course to be offered by the Institute of Real Estate Management at the Baker Hotel, Dallas, Texas, October 8 to 13, 1945.

LET nationally known experts advise you in the fundamentals of real estate management. The faculty will include Delbert S. Wenzlick of St. Louis and James C. Downs, Jr. of Chicago.

WRITE to the Institute at 22 West Monroe Street, Chicago 3, Illinois, for application form and catalog.

ANYONE INTERESTED MAY ENROLL

Students of this course making a passing grade on the course examination, if otherwise qualified, are eligible for professional membership in the Institute.

New Certifications

Institute of Real Estate Management

The title of "Certified Property Manager" has been conferred upon the following individuals by the Institute of Real Estate Management.

(See pages 344 to 352 inclusive, for a complete list of Certified Property Managers.)

CLARKSON M. HAMILTON,

Mobile, Alabama.

Born, Spring Hill, Alabama, January 17, 1912; B. S. in electrical engineering, University of Alabama, 1933; property manager for Julius E. Marx, Realtor; five years' experience in real estate management; professional territory covers Mobile County, Alabama.

WARREN BALDWIN,

Little Rock, Arkansas.

Born, Little Rock, Arkansas, February 25, 1893; partner, Conner & Baldwin; engaged in real estate management since 1913; professional territory covers the state of Arkansas; attended Little Rock College and University of Notre Dame; director, Commonwealth Federal Savings & Loan Association; chairman, real estate committee, Pulaski County Board of Equalization; past president, Arkansas Real Estate Association, Little Rock Real Estate Board.

JUSTIN MATTHEWS, JR.,

Little Rock, Arkansas.

Born, Little Rock, Arkansas, November 8, 1901; partner, Justin Matthews Co.; president, Metropolitan Trust Co.; twelve years' experience in real estate management including rural and urban dwellings, apartment houses, hotels, and commercial properties; professional territory covers Little Rock, North Little Rock, and metropolitan area; B. A. degree, University of California.

GEORGE H. GETZ,

San Pedro, California.

Born, Toledo, Ohio, March 18, 1907; manager of Banning Homes, a 2000 unit war housing development of the Housing Authority of the City of Los Angeles; eighteen years' experience in real estate management handling property for private individuals, corporations, insurance companies and the federal government in Toledo, Cleveland, Detroit, and Los Angeles; attended Western Reserve University, Cleveland, Ohio.

FRANK L. LORT,

Denver, Colorado.

Born, Denver, Colorado, September 25, 1905; property manager, Morrison & Morrison, Inc.; sixteen years' experience in real estate management; professional territory covers Denver and surrounding community.

ARTHER S. TRACE,

Denver, Colorado.

Born, Toledo, Ohio, June 4, 1892; property manager, Van Schaack & Company; twenty-seven years' experience in real estate management including apartment buildings, stores, and residences; professional territory covers the city of Denver; past chairman of the property management division, Denver Board of Realtors.

WALTER H. WENDELIN,

Denver, Colorado.

Born, Denver, Colorado, December 26, 1908; property manager, Van Schaack & Company; engaged in real estate management for the past seven years; experience includes the management of apartment houses, individual and multiple residential units, and suburban store and commercial properties; professional territory covers the city of Denver; member, Property Management Division, Denver Board of Realtors.

CHARLES B. RICE,

Hartford, Connecticut.

Born Southampton, New York, September 6, 1901; vice-president and treasurer, Godard, Rice & Co., Inc.; fifteen years' experience in real estate management; professional territory covers Greater Hartford; B. S. degree from Dartmouth College; served in the South and Southwest Pacific with the American Red Cross as Assistant Field Director, Field Director, and Area Director.

CHARLES A. POST,

Miami, Florida.

Born, Russell, Iowa, May 11, 1883; partner, Hollopeter & Post, Inc.; eighteen years' experience in real estate management; professional territory covers the Miami area; B. S. degree, James Millikin University, Decatur, Illinois; president, Miami Board of Realtors for two years; member of the advisory committee, War Housing Center for Miami; associate director, Miami Chamber of Commerce; director, Exchange Club, Miami.

MARTIN A. CULHANE,

Chicago, Illinois.

Born, Chicago, Illinois, June 20, 1897; partner, Cain and Culhane, Realtors; secretary-treasurer and director, Uptown Federal Savings and Loan Association; twenty years' experience in real estate management; specialist in cooperative apartment organization, sale and management; formerly property manager, Prudential Insurance Company of America for which he supervised field organization and contract management and sale agents in Illinois, Indiana, Iowa, and Wisconsin; professional territory covers Chicago and northern Illinois; member, Lambda Alpha, Land Economics Fraternity; chairman, Board of Governors, Renting Management Division of Chicago Real Estate Board (1944-1945); chairman, Board of Trustees, Real Estate Foundation (1945-1946).

STANLEY M. LEMARIE,

New Orleans, Louisiana.

Born, New Orleans, Louisiana, October 20, 1889; senior partner, Leo Fellman & Co.; twenty-five years' experience in real estate management covering residential, commercial and industrial properties; accounts include large commercial and apartment buildings in New Orleans as well as numerous residential properties; professional territory covers Orleans and Jefferson Parishes in Louisiana; president Bernard Company, Inc.; president Board of Levee Commissioners of the Orleans Levee District.

WILLIAM J. CAMPBELL,

North Kansas City, Missouri.

Born, Kansas City, Missouri, July 15, 1901; partner in firm of Herbert V. Jones & Company; nineteen years' experience in real estate management; principal business connections include several life insurance companies, banks, and trust companies; president and a director of Kansas City Real Estate Board; A. B. degree from University of Kansas; professional territory covers Missouri, Kansas, and part of Oklahoma.

F. B. MARTIN,

St. Louis, Missouri.

Born, Irondale, Missouri, August 16, 1892; vice-president, Carl G. Stifel Realty Company; president, Pasadena Realty Company; ten years' experience in real estate management; professional territory covers City of St. Louis and St. Louis County; attended University of Michigan, Washington University, and London University School of Commerce and Finance.

ROBERT S. WENGER,

Grand Island, Nebraska.

Born, Brookfield, Missouri, May 4, 1897; partner, Dill-Huston-Wenger Co.; twenty-two years' experience in real estate management; professional territory covers a fifty-mile radius surrounding Grand Island; A. B. degree, University of Nebraska.

HELEN E. BENEDICT,

Omaha, Nebraska.

Born, Wellington, Ohio, February 25, 1891; property manager, Terrace Realty Company; fifteen years' experience in real estate management; professional territory covers the city of Omaha; attended for one year each, a preparatory school, Berlin, Germany, and Lake Erie College, Painesville, Ohio.

JESSE L. SCHROEDER,

Omaha, Nebraska.

Born, Omaha, Nebraska, June 21, 1890; president, Schroeder Realty Company; twenty-five years' experience in real estate management; principal real estate connections include HOLC, FPHA, and Prudential Insurance Company of America; professional territory covers the city of Omaha and Douglas County, Nebraska.

ARTHUR G. PULIS, JR.,

Newark, New Jersey.

Born, West Hoboken, New Jersey, December 19, 1910; vice president, treasurer and director, Franklin Mortgage & Title Guaranty Company; affiliated with this company for the past ten years; president and director, Franklin Agency; ten years' experience in the mortgage lending and real estate field; four years' experience in real estate management;

principal business connections include Prudential, Phoenix Mutual, New York Life and John Hancock Mutual Life Insurance Companies; professional territory covers Passaic, Bergen, Hudson, Essex, Morris and Union Counties in the state of New Jersey; A. B. degree, Colgate University; LL. B. degree, University of Newark; member of New Jersey Bar and Essex County Bar Associations.

OWEN A. MANDEVILLE,

Larchmont, New York.

Born, Mamaroneck, New York, October 31, 1902; operates own business; fifteen years' experience in real estate management including office buildings, large and small apartments, single dwellings, and manufacturing buildings; principal business connections are Penn-Mutual and New York Life Insurance Companies, The Guaranty Trust Company, The Huguenot Trust Company, United States Trust Company, Bank of Westchester, and Union Dime Savings Bank; professional territory covers Westchester and Bronx Counties in the state of New York and Fairfield County in the state of Connecticut.

HOWARD W. JONES,

Cincinnati Country Club, Cincinnati, Ohio.

Born, Youngstown, Ohio, May 10, 1899; director and vice president, Robert A. Cline, Inc.; director and secretary, Bexley Construction Company; secretary, 24 East Sixth Street Corporation; twelve years' experience in management of properties ranging from tenements to office buildings and country clubs; professional territory covers Greater Cincinnati; Brown University, Ph. B. Special.

WILLIAM GERHARDT,

Cleveland, Ohio.

Born, Denver, Colorado, December 1, 1911; property manager, Federal Public Housing Authority, Region V, Cleveland, Ohio; five years' experience in real estate management; Bachelor degree, and graduate work in Public administration and social service administration, University of Chicago; keys conferred in two collegiate fields.

ROY A. HEYMANN, JR.,

Philadelphia, Pennsylvania.

Born, Philadelphia, Pennsylvania, December 2, 1915; partner, Heymann & Bro.; ten years' experience in real estate management covering office and loft buildings, apartments and stores; professional territory covers Philadelphia and vicinity; graduate of Germantown Academy; attended Wharton School of Finance; member, Philadelphia Real Estate Board, Chamber of Commerce, Society of Industrial Realtors.

HERBERT F. SYFORD,

Tacoma, Washington.

Born, Tacoma, Washington, August 11, 1900; vice president, R. E. Anderson & Co., Inc.; fifteen years' experience in real estate management; professional territory covers Tacoma and Pierce counties in the state of Washington; past president of Tacoma Real Estate Board for two years and past president of State Association of Real Estate Boards for one year; former president of Tacoma Apartment House Association; for the past four years, state chairman of the State 40-Mill Tax Committee.

MELVIN M. BIEHL,

Milwaukee, Wisconsin.

Born, Manchester, Iowa, October 15, 1914; owner, Biehl and Company; four years' experience in real estate management; professional territory covers metropolitan Milwaukee; B. S. and L. B. degrees, Marquette University; American Institute of Real Estate Appraisers, Case-Study Course I., Marquette University (1941-42).

EDWIN A. HENSCHEL,

Milwaukee, Wisconsin.

Born, Menominee, Wisconsin, May 12, 1902; associated with Arthur R. Seeger Co.; ten years' experience in real estate management; administrator of various estates under probate court of Milwaukee County; professional territory covers the city of Milwaukee.

RUTH E. MUELLER,

Milwaukee, Wisconsin.

Born, Milwaukee, Wisconsin, February 12, 1918; assistant secretary, Modern Mortgages, Inc.; six years' experience in real estate management; professional territory covers Milwaukee and suburbs.

J. CLIFFORD OLSON,

Milwaukee, Wisconsin.

Born, Chicago, Illinois, February 2, 1908; secretary and treasurer, Ageless Art Homes, Inc.; three years' experience in real estate management; professional territory covers Milwaukee County in Wisconsin.

AUGUST RICHTER, JR.,

Milwaukee, Wisconsin.

Born, Milwaukee, Wisconsin, August 10, 1892; president, Richter-Schroeder Co.; director, Sterling Savings & Loan Association; secretary, Wanderer's Rest Cemetery; thirty years' experience in real estate management; professional territory covers the state of Wisconsin.

DAVID H. SANDLER,

Milwaukee, Wisconsin.

Born, Russia, June 5, 1896; partner, Sandler-Schneider; fourteen years' experience in the management of all types of property; principal business connections include Northern Bank, Home Savings Bank, Modern Federal Savings & Loan Association and Sherwin-Williams Co., all of Milwaukee; professional territory covers Milwaukee County in the state of Wisconsin.

V. L. WHITE,

Milwaukee, Wisconsin.

Born, Milwaukee, Wisconsin, February 9, 1896; employed by E. M. Boerke; four years' experience in real estate management; professional territory covers the state of Wisconsin.

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Institute of Real Estate Management

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* *Also Members of Governing Council for 1945.*

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Frank A. Howes (397).306 Dime Bank Bldg.
Donald D. James (215).700 Penobscot Bldg.
James C. Johnston (153).....
1333 Majestic Bldg.
Frank T. King (154).....751 Griswold St.
William G. Kirby (708).....
500 Guaranty Bldg.
S. Fred Pack (709).....1432 Dime Bldg
Norman C. Scudder (459).....
1780 Penobscot Bldg.
Lee K. Silloway (18)..8th Floor, Buhl Bldg.
John Kedric Smathers (710).....
1225 Ford Bldg.
John S. Spencer (155)..416 Hammond Bldg.
William Wright Tanney (711).....
44 Michigan Ave.
Clarence W. Treadwell (576).....
1002 Lafayette Bldg.
Robert W. Treadwell (407).....
1002 Lafayette Bldg.
Egbert C. Vander Veen (282).....
617 Penobscot Bldg.
Don L. Weber (622)....3953 Somerset Rd.
R. Bliss Wolfe (623)....Lafayette Building

E. Lansing

Albert L. Ehinger (577).124 W. Grand River

Flint

Claude O. Darby (373).....
201-3 F. P. Smith Bldg.
George C. Kellar (261)..304 Sherman Bldg.
Mark H. Piper, Jr. (659).....
602 F. P. Smith Bldg.

Grand Rapids

Silas F. Albert (156).....
206 Peoples Nat. Bk. Bldg.
Robert J. Ogden (501).....
906 Peoples Natl. Bank Bldg.

Lansing

Edward G. Hacker (19)..... 221½ W. Washtenaw St.
Russell F. Phillips (398)..... 802 Bauch Bldg.
William Joseph Porter, Jr. (157)..... 105 E. Washtenaw St.
C. Rowland Stebbins (20)..... 105 E. Washtenaw St.

Muskegon

Harvey I. Nedeau (294)..... 896 Jefferson St.

Pontiac

Floyd Kent (502)....24 West Lawrence St.

MINNESOTA

Duluth

Bert L. Struble (671).....230 W. Superior

Minneapolis

Fred L. Chapman (208).519 Marquette Ave.
Maurice Engler (672).....519 Marquette
Edward W. Kellogg (592)..... 519 Marquette Ave.
E. R. Price (64) .....821 Met. Bldg.
James R. Thorpe (65)..519 Marquette Ave.

MISSISSIPPI

Jackson

Leon T. Rogers (21).....Box 486

MISSOURI

Joplin

Charles E. Byrd (712)..... 214½ West Fourth St.

Kansas City

Geo. R. Auerochs (149)..... 214 Brush Creek Blvd.
Byron G. Bliss (351)....404 Fidelity Bldg.
George M. Bliss (103) .....102 E. 9th St.
Harold W. Brown (692)....6 W. 10th St.
William J. Campbell (744)..300 Bryant Bldg.
John F. Campion (713).....2 East 39th St.
David B. Childs (352)....700 Victor Bldg.
Charles F. Curry (158)..921 Baltimore Ave.
B. Haywood Hagerman (474)..... 928 Grand Ave.
Lewis Kitchen (714).....928 Grand Ave.
J. Ward McPherson (578).Land Bank Bldg.
Arnold Norman (461)..909 Baltimore Ave.
Carl Ragsdale (542).....200 Temple Bldg.
Carl B. Rechner (295)....1002 Walnut St.
Raymond K. Sheriff (509)..1002 Walnut St.
Lowell Goodman Simonds (251)..... 409 Dwight Bldg.
William R. Stanley (375)..1002 Walnut St.
Robert L. Strain (715)..921 Baltimore Ave.
Woodford C. Taylor, Jr. (376)..... 921 Baltimore Ave.
Earl K. Townsdin (624)..212-14 E. 10th St.
Robert W. Tureman (593)..... 1319 Commerce Bldg.
Frank L. Woodward (660)..... 114 W. 10th St. Bldg.

St. Joseph

William C. Barrow (625).816 Frederick Ave.
Howard R. Sisson (716)....704 Francis St.

St. Louis

William F. Baggerman (315)..... 5330 Delmar Blvd.
H. L. Cornet, Jr. (296)....719 Chestnut St.
Ralph F. D'Oench (252)..3932 Lindell Blvd.
Carol V. Laux (463)....4658 Gravois Blvd.
F. B. Martin (745).....415 N. 8th St.
Louis Maginn (22)....23 Brentwood Blvd.
Elliott S. Miller (23).....817 N. 11th St.
George W. Riess (594).....721 Locust St.
Ralph Stevener (673)..3658 W. Pine Blvd.
Clarence M. Turley (693)..... 1321 Ambassador Bldg.
Delbert S. Wenzlick (120)..... 3658 W. Pine Blvd.

NEBRASKA

Alliance

Ethel J. Graham (626).....Box 244

Grand Island

Robert S. Wenger (746)..117½ W. 3rd St.

Hastings

LaMoine Hillers (717)..231 N Lincoln Ave.

Lincoln

Walter L. Blore (674).....1025 J St.

McCook

Lyle A. Wiedman (627)....501 E. First St.

Omaha

Arthur A. Allwine (718).....832 S. 24th.
Stephen R. Barker (676)..... Rm. 500, W. O. W. Bldg.
Helen E. Benedict (747)..2024 N. 16th St.
E. R. Clayton (677)...1116 City Natl. Bank
Albert J. Covert (719)....554 S. 25th Ave
Harlan G. Easton (628)..... 717 City Natl. Bk. Bldg.
Victor C. Graham (678)...1701 Harney St.
Harold J. Grove (679).....314 S. 19th St.
William B. Hargleroad, III (464)..... 1904 Farnam St.
Theodore H. Maenner (579)..... 707 City Natl. Bk. Bldg.
Hiram S. Manville (720)....904 N. 40th St.
Harold C. Payne (721)....226 Barker Bldg.
Lloyd M. Peterson (680)..... 500 First Natl. Bk. Bldg
J. E. Pickard (681).....1805 Douglas St.
Lilyan A. Richards (722)..... 707 City Natl. Bk. Bldg.
Jesse L. Schroeder (748)....1911 Harney St.
Robert W. York (655)..... 500 First Natl. Bank Bldg.

NEW JERSEY

Asbury Park

Theodore F. Appleby (42)..... Main St. & Mattison Ave

Atlantic City

Rudolph J. Bushell (219)..... 245 So. Vermont Ave.
Bernard F. Dever (159)..... S. E. Cor. California & Atlantic Aves.
Joseph D. Farrington (160)..... 21 S. Tennessee Ave.
Edward D. Gottlieb (121).1516 Atlantic Ave.
Byron Jenkins (32)..... 5209 Atlantic Ave., Ventnor
Russell C. Roney (72)...1421 Atlantic Ave.

Brooklawn

Leon M. Clair (162)..... Broadway & Chestnut St.

Camden

Alexander Cooper (163)....700 Federal St.
Ellis Goodman (164).....515 Market St.
Earl R. Lippincott (165)..721 Market St.
J. William Markeim (43)....540 Cooper St.
Charles R. Myers, 2nd (24)..... 12 N. Seventh St.
C. Armel Nutter (74)....101 N. Seventh St.
Harold P. Nutter (166)..101 N. Seventh St
Reba N. Obus (167)....101 N. Seventh St.

Abraham J. Rosenfeld (168).....
709 Market St.
R. Raymond Smith (343)....540 Cooper St.
Roy R. Stewart (253)....142 N. Broadway
Leon E. Todd (75).....2623 Westfield Ave.

East Newark

Charles Toyen (510).....900 Passaic Ave.

East Orange

Henry M. Lesher (25).....58 N. Grove St.
Edward B. McCaffrey (125)....520 Main St.
Harry A. Taylor (2).....520 Main St.

Elizabeth

Frank J. Brown (73).....160 Elmora Ave.
J. Carroll Dolan (629)....281 N. Broad St.
Frederick H. Hoffmann (595).....
1 Union Square
L. S. Kaufman (400)....280 N. Broad St.
R. Mason Kirkland (26).....125 Broad St.
Bertram B. Miller (80)....261 N. Broad St.
C. S. Stallard (353).....261 N. Broad St.
Max Tieger (122).....215 Broad St.
A. W. Van Horn (580)....281 N. Broad St.

Englewood

George R. Fessler (254).....8 Grand Ave.

Hillside

Louis J. Hess (682).....150 Hillside Ave.

Hoboken

Thomas A. Garibaldi (534)....77 River St.
Clinton B. Snyder (485)....61 Newark St.

Irvington

John M. Cullerton (630).....
1222 Springfield Ave.

Jersey City

Edward F. Carbin (169)..879 Bergen Ave.
Michael Conner (332).....32 Journal Sq.
Walter Koster (389).....2325 Boulevard
William F. May (395).....Kislak Bldg.
Harry V. Moser (333)....850 Bergen Ave.
Ben Schlossberg (267)....896 Bergen Ave.
Murray R. Siegel (170).....32 Journal Sq.
D. E. C. Somers (128)....700 Bergen Ave.
Anna S. Wolf (487).....389 Jackson Ave.

Kearny

Isidor Mintz (535).....508 Kearney Ave.

Maplewood

J. Lewis Fiacre (334)..1874 Springfield Ave.
Lionel C. Hartford (491)....71 Oakland Rd.
Hawley Jaquith (390).....Depot Plaza

Merchantville

Harry A. Willson (28).....
Cove Rd. & Wayne Ave.

Montclair

George H. Stanton (436)....16 Church St.
Sydney M. Valentine (488)....16 Church St.
John Young, Jr. (489)..406 Bloomfield Ave.

Morristown

Geo. W. Seiler Jr. (106)....30 Morris Ave.,

Newark

Sidney G. Bedworth (354)..24 Branford Pl.
Seely Cade (46).....744 Broad St.
William J. Carew (490).....917 Broad St.
Harry Coddington (391).....744 Broad St.
Thomas E. Colleton (581)..505 Clinton Ave.
David Cronheim (45).....39 Branford Pl.
Sargent Dumper (297).....30 Clinton St.
James J. Fitzsimmons (298)..51 Clinton St.
Walter J. Gill (582).....744 Broad St.
Herbert E. Goldberg (475).....60 Park Pl.
W. Edson Huegel (492)....17 Academy St.
Ormonde A. Kieb (300).....917 Broad St.
Sanford Krasner (493).....60 Park Pl.
Thomas F. Maher, Jr. (355)..300 Broadway
Louis J. Nass (301).....58 Park Pl.
Arthur G. Pulis, Jr. (749)..509 Orange St.
Albert C. Rachlin (521)....17 Academy St.
Israel J. Rachlin (216)....17 Academy St.
Thomas G. Robinson (494)....30 Clinton St.
John M. Rogers (409).....755 Broad St.
Joel L. Schlesinger (335)..31 Clinton St.
Milton Stern (495).....810 Broad St.
Harry J. Stevens (81)....478 Central Ave.
Leslie Stevens (683).....605 Broad St.
Carlo C. Tapaldi....228 Mt. Prospect Ave.,
George N. Weiman (302).....60 Park Pl.

Newton

Adolphus Newman Lockwood (172).....
17 Main St.

North Bergen

Cristine B. Nolan (29)..940 Bergen Turnpike

Passaic

Gilbert D. Bogart (273).....667 Main Ave.

Paterson

Samuel P. Vought (123)....7-13 Smith St.

Plainfield

Albert R. Walker (393).....201 Park Ave.

Princeton

Edmund D. Cook (173).....186 Nassau St.

Ridgewood

S. William Walstrum (174).....
201 E. Ridgewood Ave.

Rutherford

Ellwood S. New (421).....6 Ames Ave.

S. Orange

Frederic L. Wolf, Jr. (583).....
7 South Orange Ave.

Summit

Elmer G. Houston (684).....12 Maple St.

Teaneck

Alexander Summer (47).791 Queen Ann Rd.
Herman J. Tulp (175)....339 Cedar Lane

Trenton

Alfred J. Bernstein (596).....
Broad St. Bank Bldg.
H. S. Kline (176).....154 W. State St.

Union

Leonard J. Zehnbauer (48).....
998 Stuyvesant Ave.

Verona

Edward C. Bitter (408)....129 Hillside Ave.

Westwood

Walter E. Hudson (317)..25 Westwood Ave.
Clifton F. Trimble (497)....284 Third Ave.

NEW YORK

Buffalo

Harold E. Barker (631)..47 W. Huron St.
Joseph W. Becker (536)..19 S. Division St.
Philip W. Ransom (537).....7 Court St.
J. B. Wood (379).....2747 Main St.

Metropolitan City of New York

Borough of Bronx

Herman A. Acker (82)
316 E. Kingsbridge Rd.

Borough of Brooklyn

James P. Clark (178)....478 Graham Ave.
Edwin Bailey Fisher (179)..160 Remsen St.
Frank A. Matrunola (237).6903 Fourth Ave.
Albert R. Mencone (377)
1176 Bushwick Ave.
Harry A. Moehring (378)....660 Fulton St.

Borough of Manhattan

J. Francis Cahill (241)....235 W. 14th St.
Alice B. Dodd (456).....26 W. 8th St.
Harry B. Helmsley (538)..44 East 23rd St.
Herbert R. Houghton (394)..12 E. 41st St.
S. Edwin Kazdin (182).....90 Broad St.
George Keiller (423).....225 Fifth Ave.
Donald O. Kingman (584)....93 Worth St.
Edward F. Lyman (511)....225 Broadway
Harry E. Muecke (503).....530 Fifth Ave.
Walter Oerdly (451)....274 Madison Ave.,
Maurice R. Spear (183)....225 Fifth Ave.
F. Durand Taylor (274).....93 Worth St.

Borough of Queens

Frank S. O'Hara (437)
40-10 82nd St., Jackson Heights

Westchester County

Raymond R. Beatty (256)
72 Garth Rd., Scarsdale
Harry D. Cole (180)
1 Stevens Ave., Mount Vernon
Owen A. Mandeville (750)
364 Post Rd., Larchmont

Syracuse

L. T. Eagan (337)
205 Starrett-Syracuse Bldg.
George J. Goldstein (522)
604 S. A. and K. Bldg.
Richard N. Groves (512)..121 E. Genesee St.
Donald T. Pomeroy (184)
327 Montgomery St.
Jack A. Weber (513)..923 University Bldg.

West Point

A. Mark Smith (465)

NORTH CAROLINA

Charlotte

J. P. Hackney, Jr. (466)..110½ West 5th St.
Hampton B. Keller (452)..413 S. Tryon St.

Durham

W. A. Lutz (685).....109 Market St.

High Point

Ed Mendenhall (467).116 W. Washington St.

Winston-Salem

Stuart Bondurant (453)
210 W. Fourth St.

OHIO

Akron

Chauncey C. Howell (303)
403 Second Nat. Bldg.
Bernard W. Ley (185)....1099 S. Main St.
Clinton R. Miller (632)....330 S. Main St.
A. R. Ritsman (35).....1099 S. Main St.
Louis Wolcott (633)
403 Second Natl. Bank Bldg.

Canton

Fred H. Broad (438).700 Harter Bk. Bldg.
George W. Gosser (410).127 Second St., N. E.
T. K. Harris (634)....127 Second St., N. E.
Samuel S. Sherman (635)
700 Harter Bank Building

Cincinnati

Robert A. Cline (83)....The Enquirer Bldg.
Erwin G. Downing (275)
N. W. Cor. Fourth & Walnut Sts.
L. V. DuBois (84)
S. W. Cor. Fifth & Main Sts.
Julius J. Heidacher (585)
1027 Enquirer Bldg.
Richard T. Hosler (469).4th and Walnut Sts.
Ellsworth F. Ireland (554)
4500 Carew Tower
Howard W. Jones (751)
1027 Enquirer Bldg.
Carl A. Mayer (49).1515 First Nat. Bk. Bldg.
Robert W. Rieckhoff (636)
111 East Fourth Street
R. Gordon Tarr (637)....612 W. Fifth St.
Lewis A. White (50)..Seventh & Walnut Sts.
K. P. Wood, Jr. (586)
Union Cent. Life Ins.

Cleveland

Roy C. Carpenter (380)..Euclid 30th Bldg.
Paul C. Davis (539)....515 Superior Ave.
William A. Fox (476).....3030 Euclid Ave.
William Gerhardt (752)
FPHA, 2073 E. 9th St.
Louis E. Goldman (540)....71 Euclid Bldg.
Charles E. Norlin (515)....108, The Arcade
Carlton Schultz (36)..The B. F. Keith Bldg.
Ray M. Shimmon (471)
805 Hippodrome Bldg.
Lamont H. Stofer (443)..6523 Euclid Ave.
Arthur E. Wade (76)....Plain Dealer Bldg.

Columbus

Hayden Edwards (85).....10 E. Long St.
Wallace E. Nelson (638)....40 W. Gay St.
Harold F. Zeig (381).....581 E. Town St.

Dayton

Sidney Eisenberger (454)..729 Grand Ave.
L. H. Steinman (602)....232 N. Ludlow St.

East Cleveland

Eldon R. Leo (447)....2009 Stanwood Road

Ironton

William R. Young (587).....Hotel Marting

Lakewood

William C. Crawford (440)
2189 Mars Ave.

Springfield

Harold S. Goodrich (338)
25 New Zimmerman Bldg.

Toledo

Laurel G. Blair (411)....810 Madison Ave.

OKLAHOMA

Muskogee

E. R. Bryant (639)....628 Equity Building

JUNE

Okmulgee

Addison Sessions (283)..111 N. Grand Ave.

Sand Springs

A. H. Burgess (523).....

Tulsa

Veda M. Bostick (477)..21 Atlas Life Bldg.
R. B. Collins (478).....204 S. Cheyenne
Kenneth Crouch (479)....230 Beacon Bldg.
Ralph M. Darnell (686)..103 Beacon Bldg.
Dan J. Davisson (480)....230 Beacon Bldg.
T. G. Grant (482).....311 Atco Bldg.
Ben O. Kirkpatrick (356)..1325 Hunt Bldg.
Ernest C. Leonard (544)....23 E. Fourth St.
Victoria Miller (483).....1325 Hunt Bldg.
Edward Watters (37).....519 S. Main St.

OREGON

Portland

William W. Barendrick (188).....
200 Wilcox Bldg.
Robert M. Barger (382).236 S. W. Broadway
William L. Brewster, Jr. (412).....
803 American Bank Bldg.
Harry S. Coleman (357).....
1301 Public Service Bldg.
Leroy D. Draper (383).236 S. W. Broadway
E. P. Fimpel (588)....2383 N. E. 46th Ave.
James R. Haight (51)..408 S. W. Fourth Ave.
C. I. Meyers (339).....
The United States Nat. Bk.
Chester A. Moores (265).415 S. W. Sixth Ave.
David B. Simpson (189)..200 Wilcox Bldg.
Donald L. Woodward (384).....
236 S. W. Broadway

PENNSYLVANIA

Altoona

John Hill (603).....410 C. of C. Bldg.
E. F. McDowell (656)..400-02 Central Trust
T. Chester Parsons (657)....1107 12th Ave.

Chester

Earle F. Hewes (217).....521 Welsh St.

Erie

Floyd A. Baker (516)..Security Bank Bldg.
Rowena L. Hagmann (441)..10 E. 10th St.
E. W. Miller (517)....309-12 Masonic Bldg.

Hazelton

Robert D. Quin (385).....
Hazelton Nat. Bank Bldg.

Norristown

Lewis C. Detwiler (218).....6 E. Airy St.

Philadelphia

Boyd T. Barnard (66)..Lincoln-Liberty Bldg.
Josiah Bunting, 2nd (399)..1424 Walnut St.
Chester J. Cincotta (108).....
200 Bankers Securities Bldg.
Elton G. Crockett (455)..1421 Chestnut St.
Hugh F. Gerhard (589).....
Washington & Ogents
H. Walter Graves (220).....8 S. 40th St.
Reynold H. Greenberg (38).....
17th & Sansom Sts.
William H. Groetzinger, Jr. (518).....
708 Market St., Natl. Bk. Bldg.
Alfred L. Haig (318)....7010 Elmwood Ave.
Samuel T. Hall (111).....123 S. Broad St.
Roy A. Heymann (112)....215 S. Broad St.
Roy A. Heymann, Jr. (753).213 S. Broad St.
C. Harry Johnson (52)....Packard Bldg.
John G. Keck (114).....1622 N. Broad St.
E. Fred Kemner (190).....
Bustleton & Grant Aves.
James C. Leeper (221)
Room 2929 12 S. 12th St.
James H. Livesay (191).....
S. E. Cor. Sixth & Dickinson Sts.
John J. MacDonald (413).....
Real Estate Trust Bldg.
J. William Markeim (43)..1606 Walnut St.
William I. Mirkil (67)....123 S. Broad St.
D. O. Morton (231)..Walnut & Juniper Sts.
Walter A. Nash (193)..1307 Packard Bldg.
Thomas Calvin Pillion (115).....
Walnut & Juniper Sts.
Glyndon Priestman (53).....
5736 Greene St., Germantown
William Pugh (116).....5713 Market St.
Albert Quell (590).....1420 Walnut St.
Roland R. Randall (340)..1211 Chestnut St.
Herbert H. Rose (222).....8 S. 40th St.
Edward Rosewater (194).....
209 Lewis Tower Bldg.
James C. Seiss (304)....1622 N. Broad St.
Richard J. Seltzer (117).....
Room 2929 12 S. 12th St.
R. Drummond Smith (195).100 S. Broad St.
Walter R. Taylor (224).....27 S. 40th St.
George R. Weikel (225).....
N. E. Cor. 17th & Sansom Sts.
Norman Weiss (39).....213 S. Broad St.
Robert M. Wilson (54).....
Walnut & Juniper Sts.

Pittsburgh

A. J. Aberman (226).....429 Fourth Ave.
M. J. Aberman (227)....429 Fourth Ave.
Stanley W. Arnheim (723)...541 Wood St.
Norman S. Blair (305)....341 Fourth Ave.
M. B. Collins (545).....312 Fourth Ave.
H. M. Curry (546).....312 Fourth Ave.
James F. Gilson (228)....311 Fourth Ave.
William M. Hall (386).695 Washington Blvd.
J. E. Headley (640).....
4th Avenue and Wood Street
George A. Meyers (229)....450 Fourth Ave.
Harry E. Pople (306)....302 Frick Bldg.
B. F. Richards (232)....6006 Centre Ave.
E. W. Rudert (233)...711 Washington Rd.
Meyer H. Sachs (484).....5822 Forbes St.
Frank W. Schornagle (234).440 Fourth Ave.
F. E. Shaughnessy (235)....7216 Kelly St.
James W. Stevenson, Jr. (547).....
666 Washington Rd.
Arthur F. Texter (358).....720 Wood St.
Benjamin Thorpe (649)..218 Bakewell Bldg.
Thomas N. Wilson (548).....
1100 Jones Law Bldg., 530 4th Ave.
Ralph C. Ziegler (687).....
604 Diamond Bank Bdg.

Reading

Miller J. Eckel (307).....20 N. Fourth St.
Sidney L. McIlvain (550).....
616 Washington St.
Jacob L. Rieser (549)..616 Washington St.
M. Duke Sowers (541).....533 Penn. St.
William M. Stottlemyer (641).....
1100 North Ninth Street

Shamokin

Charles E. Hoover (551).....
2-4 W. Independence St.

Wilkes-Barre

Robert L. Casper (55)....Miners Bk. Bldg.
Anne G. Young (591).....
Miners Natl. Bk. Bldg.

Williamsport

Fred B. Wetzel (56).....317 Pine St.

SOUTH CAROLINA

Greenville

Alester G. Furman, Jr. (276).....
1500 Woodside Bldg.

TENNESSEE

Chattanooga

Scott N. Brown (196).....105 W. 8th St.
A. C. Pinckley (642)....4122 Alabama Ave.

Memphis

H. D. Dermon (555)....106 Dermon Bldg.
W. D. Galbreath (68).....
Columbian Mutual Tower
John J. Heflin, Jr. (387).....
Columbian Mutual Tower
Will H. Higgins (414).....42 S. Second St.
Albert F. Kerns (424).601 U. P. Bank Bldg.

Nashville

J. B. Gillespie (118)
1132 3d Natl Bank Bldg. 4th Ave., and Church street.

TEXAS

Amarillo

J. Hal Brown (69).....109 E. Ninth St.

Dallas

Harold W. Keller (236)....Santa Fe Bldg.
Col., Corps of Engineers, U. S. Army.
Max Ploeger, Jr. (658)..111 So. Murphy St.
Richard V. Works (661).....
1505 Dallas Natl. Bank Bldg.

El Paso

W. M. Zuendt (187)....Bassett Tower Bldg.

San Antonio

A. H. Cadwallader, Jr. (197).....
935 Majestic Bldg.
Ruth C. Yelton (604)....618 Gunter Bldg.

UTAH

Salt Lake City

H. P. Kipp (504).....151 So. Main St.
F. Orin Woodbury (58).....
18 E. on S. Temple St.

VIRGINIA

Arlington

Jack R. Jones (597).....
1403 N. Court House Rd.

Norfolk

D. H. Goodman (199)....600 Dickson Bldg.
Robert C. Goodman (688).600 Dickson Bldg.
Virginius H. Nusbaum (724).148 Granby St.
Irving F. Truitt (689).....438 Boush St.

Richmond

Alfred L. Blake, Jr., (556)....20 N. 8th St.
Merrill E. Raab (200)....710 E. Main St.
Morton G. Thalhimer (57)..1013 E. Main St.

WASHINGTON

Bellingham

E. A. Wheeler (257)...1411 Commercial St.

Seattle

Arthur Z. Boid (258).....810 Second Ave.
Bert G. Owen (259).....310 Republic Bldg.
Donald H. Yates (342)..302 Republic Bldg.
Clarence W. Zaar (650).4529 California Ave.

Tacoma

Harold A. Allen (690)....1012 Rust Bldg.
Herbert F. Syford (754)..400 Fidelity Bldg.

WEST VIRGINIA

Huntington

K. Ross Lutz (643).....915 Fifth Avenue

WISCONSIN

Madison

D. J. Benedict (59).....24 W. Mifflin St.
Byron L. Caldwell (442).....
155 Lakewood Blvd.
Earl D. Haley (359).....124 State St.
Harry B. Haley (311).....124 State St.
Merrill J. Haley.....124 State St.

Milwaukee

Melvin M. Biehl (755)..4738 W. Lisbon Ave.
Herbert W. Engel (725)...1307 S. 16th St.
Gene J. Hartung (726)..1826 W. Center St.
Irwin A. Henschel (756)..2246 N. 27th St.
H. L. Kadish (727).Rm. 316, 808 N. 3rd St.
Fred Kress (728).....1008 N. 6th St.
Isabel Rheins Kress (729)..1008 N. 6th St.
Elmer W. Lentz (646)....735 N. Water St.
J. A. Lippert (647).....759 N. Water St.
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